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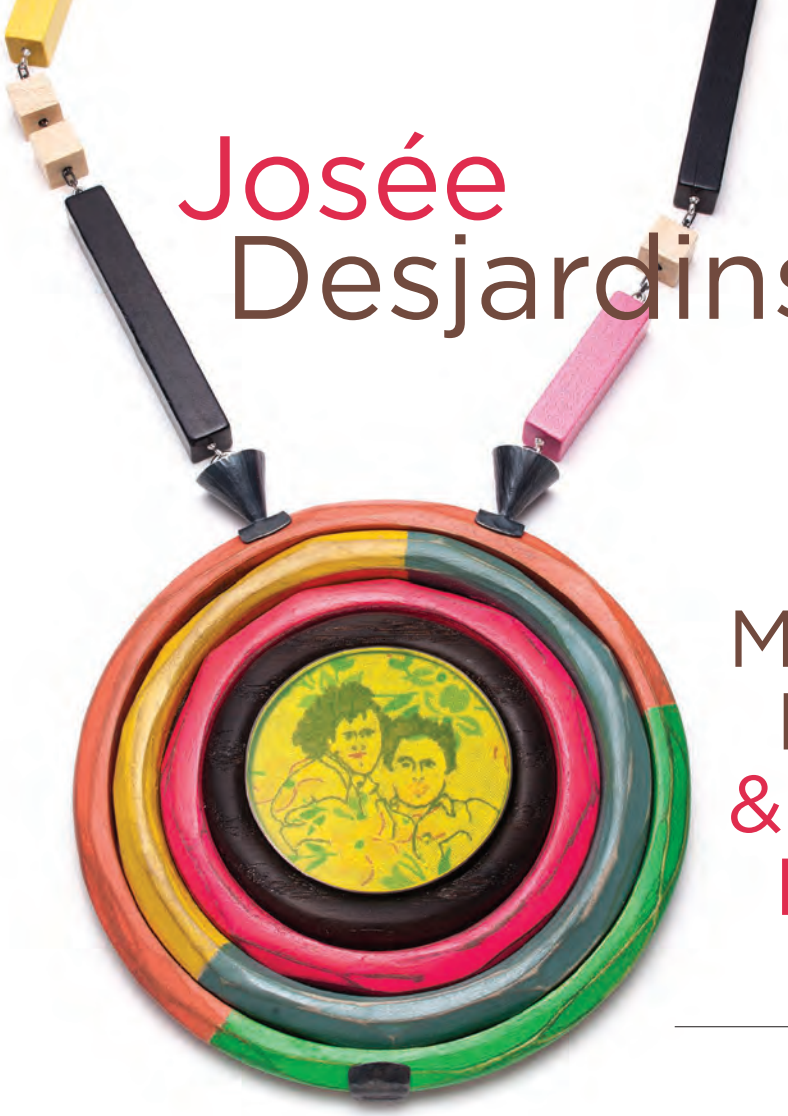

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The mission of *Metalsmith* is to explore, analyze, promote and document excellence and innovation in the field of jewelry and metalsmithing. In achieving this goal, SNAG will produce and oversee the direction and content of a publication that will serve as a significant resource for the metalsmithing field. The editorial content of *Metalsmith* will emphasize contemporary activities, makers, and ideas and incorporate supportive content, relevant critical issues and the exchange of viewpoints.

This is my last issue as editor of *Metalsmith,* prompting musings on the magazine's true value and aims. The original meaning of the word "magazine" is a warehouse or store, especially for arms and munitions. Accordingly, during my seventeen-year editorial reign I've sought to stockpile these pages with sharp and fortifying content. I have kept my radar on for artists who demonstrate the complex power of jewelry and metal arts.

In this regard, the publication you are now reading is well endowed. Indeed, the three feature articles all speak to the depths of our human condition, even touching on matters of life and death.

Linda Kindler Priest marshals precious materials within her jewelry to pay homage to the preciousness of existence itself. Whether rendering an egret or elephant, her exquisite creations extol nature's beauty and "express the sheer wonder of survival," as Andrea DiNoto writes.

Simone ten Hompel's nuanced utensils and hollowware are infused with wisdom about the agency of objects. The intimacy of spoons assumes special significance. "Spoons are the first and last tools we use in our life," says ten Hompel. "To make a spoon is to acknowledge the potential for reciprocity."

Beneath the opulent facades of Petra Zimmermann's jewelry stir knowingly provocative undercurrents. While embracing the glitter and shine of adornment, her work lures us into pondering darker truths, as in her recent series on the theme of *vanitas.*

The late great jeweler Ron Ho, remembered here by Kiff Slemmons, embodied the field's grandest aspirations. For Ho, "jewelry's importance, its significance, became the celebration of life itself," Slemmons states. Ultimately, this is the chief editorial quest of *Metalsmith:* to illuminate the ways that metalsmithing can affirm and embolden our very lives. It has been my pleasure these many years to lead this worthy charge . . .

—Suzanne Ramljak, Editor

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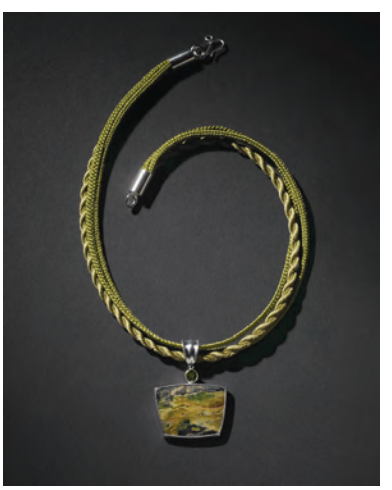

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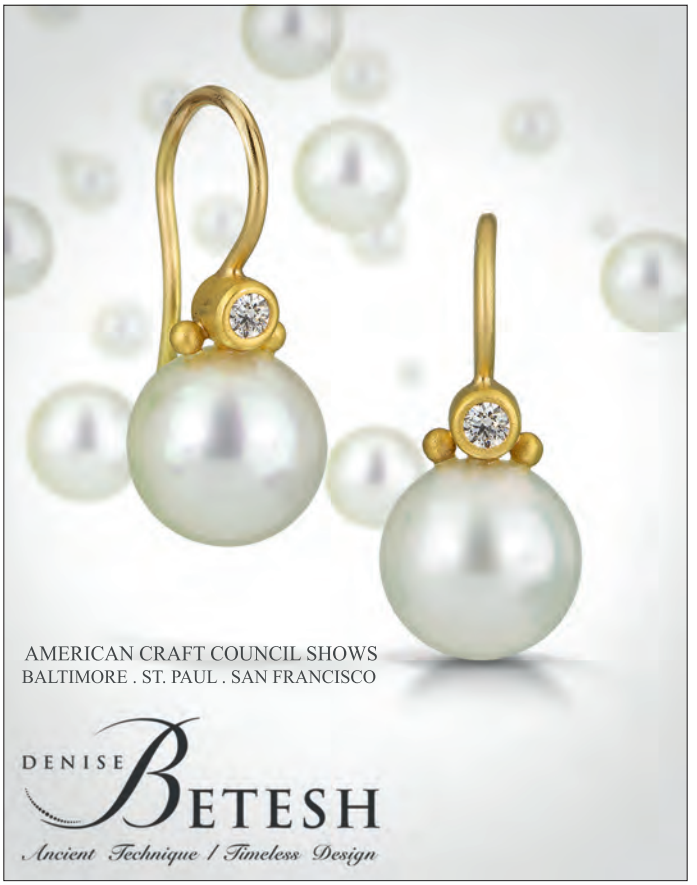

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VIVIAN BEER

SNAG's Keynote Speaker, Vivian Beer, is a furniture designer/maker based in New England. Her sleek, abstracted metal and concrete furniture combines the aesthetic sensibilities of contemporary design, craft, and sculpture to create objects that alter viewers' expectations of and interface with the domestic landscape. With a strong foundation in contemporary furniture design, her research into the history of American industry, architecture, and transportation adds intellectual rigor and specificity to her work.

Vivian holds an MFA from Cranbrook Academy and received their 2016 Alumni Achievement Award. Beer has won numerous awards and residencies including the Ellen DeGeneres Design Challenge, John D. Mineck Furniture Fellowship, Penland School of Crafts Residency, multiple Windgate Artist Residencies, Museum of Glass, Pilchuck, a Research Fellowship at the Smithsonian National Air and Space Museum, and was recently named a 2016 United States Artist Fellow.

For a full line-up of speakers and conference events, please visit the conference webpage: snagmetalsmith.org/conferences/made/

PRE-CONFERENCE WORKSHOPS:

SNAG is excited to offer pre-conference workshops this year at the Marriott Hotel Wednesday, May 23. Each workshop is geared toward helping you develop your professional practices. Off-site workshops are also being offered through the Oregon College of Art and Craft and the Form 3-D Foundry. Even if you've already registered for the conference, you can add-on these workshops now.

For a complete line-up, please visit snagmetalsmith.org

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NEW & NOTEWORTHY

BY KATE FOGARTY

The Art of De Grisogono, Creation I sold for a record-breaking $33.7 million at Christie's in 2017.

The *CTF Pink Star,* sold for $71.2 million at Sotheby's, set the world auction record for any diamond or gemstone in 2017.

AUCTION SALES ARE ROCKING

Sotheby's and Christie's diamond-sharp focus on fine jewelry in 2017 certainly paid off, as the two global auction houses reported more than a combined $1 billion in sales. Christie's reported jewelry auction sales of $556.7 million; Sotheby's, $551.3 million. At Christie's, two sales were also entered in the record books: the highest price for a D-color flawless diamond for *The Art of De Grisogono, Creation I,* which sold for $33.7 million in Geneva in November, and for price-per-carat for an emerald, for the 18.04-carat octagonal step-cut *Rockefeller Emerald,* bought by Harry Winston for $5.5 million in New York in June. Nearly matching the price-per-carat record for a pink diamond was the 14.93-carat fancy vivid *Pink Promise* diamond, which sold for $31.9 million in Hong Kong in November.

Not to be out-boasted, Sotheby's set the world auction record for any diamond or gemstone with *The Pink Star,* later renamed the *The CTF Pink Star,* a 59.60-carat oval mixed-cut Type IIa pink diamond, which sold for $71.2 million to buyer Chow Tai Fook. Sotheby's also achieved the highest price for earrings with the pear-shaped *Apollo Blue* and *Artemis Pink* diamonds, renamed *The Memory of Autumn Leaves* and *The Dream of Autumn Leaves* after their combined $57.4 million sale.

Sotheby's reported that 32 percent of this year's jewelry buyers were bidding at the auction house for the first time—which suggests that this love affair with fine jewelry sales will continue to blossom in 2018. Rahul Kadakia, International Head of Jewellery at Christie's, gleefully stated on their website: "This has been a stellar year for jewellery at Christie's . . . Our global team of jewellery specialists looks forward to bringing to market the very best jewels for our clients."

MARLA AARON DELIVERS NEW TOOLS FOR SELLING JEWELS

Vending-machine jewelry has come a long way from the chunky plastic rings of childhood—and the price of a bauble is no longer a quarter. If you've been in an airport recently, you may have been tempted by high-end vending machines that dispense not Cokes and Cheetos but Benefit makeup and Beats headphones. On a trip to Japan a few years ago, New York–based

Marla Aaron with her jewelry vending machine in the lobby of the Brooklyn Museum. Photo: Margeaux Walter

Shaun Leane
Contra Mundum (Against the World) White Gold and Diamond Evening Glove, 2010
Photo: Nick Knight

designer Marla Aaron, known for her line of silver and gold jewelry inspired by hardware like locks and carabiners, "became obsessed with all the vending machines on the streets," which there dispense all manner of items. Determined to bring the concept to the jewelry industry in the U.S., she ordered a vending machine—but had a difficult time finding a place to put it. "The real estate world thinks in very traditional terms, and they could not wrap their mind around how to charge me for space because it takes up so little space. I wanted it to be in an unexpected place so it could be stumbled upon," Aaron told the website The Adventurine. However, a client suggested The Brooklyn Museum, which could wrap their minds around it, and Aaron's Fine Jewelry Vending Machine was installed outside the museum shop in December 2017, in time for the holiday season. Prices for the seven items available for purchase range from $100 for a sterling silver *Cuffling* ear cuff to about $1,500 for a gold *Total Baby Baguette Lock* rainbow-set with gemstones on a sixteen-inch gold chain. An interested customer interacts with a touch screen, which first features a brief video about Aaron's work. You know the rest of the drill: select your item, slide your credit card, and wait for your prize! Each piece is available for a full refund via email or phone request. Aaron can switch out the items for sale, as well as the video and the machine's exterior wrap; all of which she will most likely do when the machine arrives to its next destination (unknown at time of printing). For more information on Marla Aaron and her vending machine, visit www.marlaaaron.com.

SHAUN LEANE'S HEAVY METAL RUNWAY DESIGNS

One of the noteworthy jewelry auctions of 2017 that focused not on stones, but style, was "Couture Fashion Jewellery: The Personal Archive of Shaun Leane," held at Sotheby's New York in December. Leane is the award-winning British jewelry designer best known for his collaborations with the fashion houses Alexander McQueen and Givenchy. Held in association with Kerry Taylor Auctions, the December sale featured 45 custom pieces that Leane produced for the runway, which have also been worn by luminaries like Isabella Blow, Kate Moss, and Sarah Jessica Parker. The centerpiece of the show was the thirty-plus designs that Leane designed for Alexander McQueen, for collections from Autumn/Winter 1996 to Spring/Summer 2008. Many of these pieces were exhibited in the blockbuster retrospective of McQueen's work at The Metropolitan Museum of Art in 2011. The auction's $2.6 million in sales included signaturely provocative pieces like *Face Thorns, a Male Jaw-Piece,* a *Pheasant Claw and Tahitian Pearl Collar,* and a *Silver Tusk Mouth-Piece.* The breathtaking *Contra Mundum (Against the World) White Gold and Diamond Evening Glove,* which is comprised of more than 4,000 diamonds, sold for $312,500. Created for Leane's moneyed muse, the Honourable Daphne Guinness, the piece was inspired by Guinness's lifelong fascination with armor and took more than four years to complete. After the auction, Head of Sale Kerry Taylor noted that the top prices were "achieved for runway pieces made from base metals—proving that the value in those works was for their superb design, rather than for fine materials."

PORTLAND, OREGON: A RIVER RUNS THROUGH IT

BY JUDY WAGONFELD

Susan Zoccola
Bower, 2015
steel, paint, powdercoat, lights
30 × 20 × 20'
Commissioned by Tri-Met, for the Park Ave/Oak Grove station of the Orange Line

First things first: A visit to Portland entails a pronunciation lesson. It is *not the WILL-a-mette or will-A-mette* River. Locals instruct: *It's "Will-AM-it" as in "It's Will-AM-it, damn it!"* This point can even be found printed on T-shirts. The Willamette River, rippling to its Columbia River confluence, bisects Portland. However, it unifies rather than divides, linking 15 neighborhoods by 12 bridges. Its newest 2015 connection, Tilikum Crossing, the "Bridge of the People," serves feet, bikes, and light rail—no cars.

The sundry bridge styles mirror Portland's eclectic culture, so hilariously spoofed on the TV series "Portlandia": "The city where young people go to retire." The official City of Roses nickname refers to the spectacular International Rose Test Garden in Washington Park, established in 1917. Other nicknames abound: P-Town, Bridgetown, Biketown, Rip Town, or PDX (the airport). But it's Stumptown, adopted by an iconic Portland coffee roaster, that's popular now. The name references the angry protests of the 1850s, when a road project decimated tree stands, littering the landscape with stumps. Indicative of Portland's civic engagement ethic, it befits the city's unofficial motto, "Keep Portland Weird." In 2007 *The Oregonian* newspaper actually trademarked the slogan, distributing bumper stickers. Attesting to the weirdness, in Portland (and throughout Oregon), you cannot pump your own gas, but you can participate in naked bicycle events.

Mike Suri
Driveway Gate, 2010
weathering steel
Photo: Mike Suri

Portland public art dates to 1888, when pharmacist Stephen G. Skidmore's will allocated funds for a bronze sculpture of a woman balancing a granite fountain overhead; it is known as the Skidmore Fountain. Restored in 2005, it remains an Old Town gathering point. Today, Portland teems with art, owning approximately 2,000 works funded by percent-for-art initiatives and donations. A $35 annual Arts Tax on anyone over 18 yields an additional $10 million a year, funding school programs for 36,000 students.

In 1997, the transportation system, Tri-Met, adopted a Percent for Arts policy that stipulates that all projects include an Art Master Plan based on a cross-disciplinary, sense-of-place motif. Its finest example, the new seven-and-a-half-mile light rail Orange Line, integrates the art of the Tilikum Crossing with artwork in its 21 stations. Crafted by 26 makers and 57 writers, the project incorporates metal, glass mosaics, poetry, stone, wood, and technology, immersing riders in a rich historic and cultural journey. The bridge's cable supports merge in triangular towers, echoing Mount Hood's snowy peak. Anchoring each riverbank, the chiseled basalt of Greg A. Robinson's *We Have Always Been Here* honors Chinook imagery. LED lighting hues mutate based on the river's speed, height, and temperature. At the line's Oak Grove terminus, people stand beneath *Bower*, a lacy canopy of powdercoated steel oak leaves by Susan Zoccola.

Sara Thompson
Rocket Ship #3, 2016
sterling silver teapot, 3-D printed plastic
Photo: Stephen Funk

While enhancing the quality of life, public art can also galvanize change, as when one downtown Portland sculpture upended the 1984 mayoral race. Candidate Bud Clark, a colorful tavern owner, holding his raincoat open, flashed *Kvinneakt,* (Norman Taylor, 1975) a bronze female nude sculpture. A photo of the incident by Mike Ryerson was made into a poster, *Expose Yourself to Art* (1978), which in today's language, went viral. Against the odds, Clark won. Recently I spotted the poster in a Budapest cafe.

During that era, Michael Graves designed a multihued, post-modern government center. Above its entry, the copper repoussé *Portlandia* (Raymond Kaskey, 1985) portrays the 1878 Queen of Commerce city seal. Nearby Pioneer Courthouse Square, dubbed the city's "Living Room," is the site of the popular *Allow Me* (1984, J. Seward Johnson), a bronze gentleman under an umbrella, and Georgia Gerber's bronze wildlife *Animals in Pools.*

The plenitude of public art emanates from the Regional Arts & Cultural Council (RACC), which awards commissions, runs workshops, and develops programs such as The Right Brain Initiative, which facilitates creativity in schools. "Portland is very interdisciplinary in art," says Oregon College of Arts and Crafts (OCAC) metals department head Christine Clark. As evidence, she cites the annual 10-day Time Based Art Festival (TBA), held each September, which mirrors innovation across realms—from metals to Nike to cafes. Whether it's coffee, microbrew beer, Willamette Valley wine, art galleries, crafts, clothing, music, fresh produce, culinary arts, or food cart pods, there's a feast for the visual and aromatic senses.

"You cannot talk about Portland without talking about food," says Clark. The Portland Saturday Market (also open Sunday) is a thriving microcosm of art, craft, and culinary creativity. Across the city, crowds cram monthly art walks and then dine out in three neighborhoods: First Thursday is held in The Pearl (Portland's

Shelly Durica-Laiche working on an *Art Deco Holiday Tree* commission from ARTemis for the Providence Festival of the Trees, 2016.
Photo: DBMcD, Portland.

art epicenter); Last Thursday in Alberta; and First Friday in Central Eastside.

"I think [the art scene is] incredibly encouraging here, not cutthroat. People support one another, especially at OCAC," says silversmith Sara Thompson, maker of sleek contemporary jewelry and hammered bowls, spoons, and plates. Like many OCAC students and graduates, Thompson reveres Christine Clark. "I wouldn't be the metalsmith I am today if I didn't have her," she says. It's a common refrain.

"OCAC is like a fraternity or sorority. It's tight-knit and intense," says jeweler Kate Speranza. With other graduates, she rents space from Joe Diemer Artisanry, sharing techniques and equipment. Diemer, a maker of Renaissance-inspired copper, brass, and silver birdcages, pays the rent by fabricating locksets and decorative ironwork. Diemer's wife Jamieson crafts enameled and molten silver rings and pendants. Gina Rios produces minimalist, bold sculptural jewelry. Since Diemer's studio rent doubled last year, the group worries about losing studio space to cannabis shops and gentrification.

OCAC, founded as the Arts and Craft Society in 1907, employs a studio- and mentor-based environment, teaching impeccable metals skills. An impressive 82 percent of alumni work in art fields. Since 1994 OCAC has offered bachelor's degrees, and later added master's degrees, which can be combined with the Pacific Northwest College of the Arts' (PNCA) Applied Craft and Industrial Design specialties.

Although Portland lacks a dedicated studio jewelry gallery or a museum jewelry collection, myriad sales venues exist. Markets and seasonal fairs, open studios, pop-ups, and craft stores such as MADE (goods handmade in Oregon) feature one-of-a-kind and production pieces, ranging from accessible contemporary design to funkiness for the less faint of heart.

Greg Wilbur hammering copper in his studio.

In the upscale, custom realm, Alchemy owners David Iler and Laura Mapes design, repair, and restore jewelry in their architectural steel-clad showroom. Using recycled and ethically sourced gold, platinum, gemstones, and heirloom pieces, they fashion contemporary couture works. As employers, they mentor artisans in precision metalwork and gemology.

In late May, Portland will host the Society of North American Goldsmiths' (SNAG) conference based on the theme, "Makers Across Disciplines Engage" (MADE). Conference participants will gather at Art Design Portland (ADX), a 24,000-square-foot hub, where makers explore, build, and grow through six-month Maker Paths. The evening will feature tours, food trucks, and a joint Portland-Seattle metals exhibit. Elsewhere, SNAG will host a Trunk Show, "Exhibition in Motion," and exhibits at OCAC's Hoffman Gallery and The Marriott Hotel. Thursday's Pearl District "Gallery Crawl" will showcase metals, such as SNAG member Greg Wilbur's exquisite raised vessels at Waterstone Gallery.

Wilbur, a former chair of the Portland's Creative Metal Arts Guild (CMAG) and its annual exhibit, laments the clientele change. "We used to get people of means, but not now," he says. Current president Mandy Allen agrees: "Locals prefer jewelry on the borderline of manufactured and handmade." Both bemoan the 2016 bankruptcy that ended the Museum of Contemporary Craft (MoCC), a fixture in various iterations since 1937, as a harbinger of art's vulnerability due to aging collectors and a youth "less is more" culture.

Shelly Durica-Laiche, typical of Portland's new maker breed, shares a studio at Watershed PDX, crafting metal gates, trellises, and abstract and figurative sculptures. Run by Deadletter

Lee Kelly
Memory 99, 2012
Cor-ten steel
Located in plaza of
Pacific Northwest College
of Art, Portland
Photo: Judy Wagonfeld

(yes, that is the name he uses), the old warehouse hosts about 30 artisans. "We know and help each other," Durica-Laiche says. These younger makers eschew traditional galleries, favoring client contact at fairs, on-line platforms, co-ops, and word of mouth. "I do about 16 shows a year," says Durica-Laiche, "and show at Artistic Portland, a member-tended shop." As part of Pacific Northwest Sculptors, she says, "We meet in studios and discuss our work—materials, tools—and find out how other people create."

Alternatively, metalsmith Mike Suri navigates on his own. Obsessed with metals during high school, he scoured library books, experimenting in a backyard shed. Then he saw an Albert Paley exhibit. "It was like the Holy Grail," Suri says. Foregoing academics, he honed his skills at a metal shop and in a bronze casting apprenticeship. Now a self-supporting fabricator of ironwork trellises, railings, ornamental metals, and public art, he trains assistants. Hoping to inspire vocational students, Suri teaches metals at Mt. Hood Community College.

Art, like the bridges and mist, pervades Portland's social fabric. It infiltrates the psyche—whether it's Lee Kelly's 4,000-pound Cor-Ten steel sculpture *Memory 99,* William Wegman's cast bronze *Dog Bowl* (2002), The Portland Art Museum, or the summer's 24 pianos scattered across town, bearing "Please Play Me" signs. People do, spawning impromptu gatherings. And, there's Powell's, the beloved independent bookstore where locals can hear authors and get lost in literature amid the sprawling warren of rooms. Although the "Keep Portland Weird" counterculture persists, the city flows like the river, always moving forward with its environmental protections, transportation and bicycling network, and public art programs. Before stepping into its waters, heed two last pieces of advice: In The Pearl, the street is pronounced *"Kooch,"* not 'Couch' Street. And, please, say *"aura-GUN," NOT "Oregone."*

Judy Wagonfeld is a freelance writer living in Seattle.

MARIA EIFE
VIRTUAL REALITIES

BY ANDREA DINOTO

Binary I Necklace
wool felt
diameter approx 9 1/2"

"EVERYTHING IS VERY LIGHT, really strong; very flexible, not fragile," says Maria Eife of the colorful, sculptural jewelry she creates by means of 3D printing. In the art jewelry world, the process is considered both cutting edge and controversial. This technique of creating waxes for metal casting has become the backbone of the commercial jewelry industry.[1] Still, artists and designers like Eife are demonstrating its growing legitimacy as a creative medium. Using CAD software, Eife builds virtual forms, which are printed out as three-dimensional objects made from a laser-hardened, proprietary, powdered nylon material, which is then refined by hand.[2] "I add the colors myself," she says, "as the material is porous and absorbs nicely." Depending on the complexity of the virtual design, the material can assume forms as diverse as delicate textiles or geometric constructions. Eife's earrings occur both as pleated silk and bold scrolled hoops, both pierced with silver findings. Bracelets are dimensional domed cages or ribbonlike scrolls, and torque necklaces become near-pneumatic sculptural forms in vivid colors.

Eife is a graduate of the Jewelry and Metals program at Temple University's Tyler School of Art in Philadelphia, the first school to incorporate 3D printing into a crafts program. "CAD was hard to learn," she admits, "but it became part of my repertoire of skills." Still, Eife did not start using the technology until three years after earning her BFA from Tyler in 2000. After graduating she worked at a fine-jewelry store and considered going back to school for industrial design. Then in 2003 she began an internship in Philadelphia with Josh Owen, a product designer. This job led to commissions making awards for a variety of organizations, which she still does. In 2009, Eife created what she calls her "first commercially viable piece": the graphically dazzling *Binary* necklace made from laser-cut industrial felt that spells out "WHAT?" in binary code. As they were an instant hit, Eife sold them at the 2010 Art Star craft bazaar in Philadelphia, at designboom mart in Valencia, Spain, and at the Martha Stewart Holiday Crafts Show in New York City. In 2011 she connected with a sales rep for museum shops, many of which took the *Binary* collection.

Maria Eifein her booth at the 2017 Philadelphia Museum of Art Craft show.

Cage Brooch, 2016
sterling silver, mother of pearl, stainless steel
2 1/4 × 2 × 3/4"

In 2013, as a SNAG invitee, Eife exhibited at the ACC Baltimore show. "I didn't think I was ready," she says, "but I accepted, and that's where I presented my first 3D printed pieces: *Loop Hoops* and I bangles." Gathering confidence, she applied to the Philadelphia Museum of Art Craft Show, got in, and thought "Ok, this is real"; then began to work with selected craft galleries. In 2016, Eife had her first solo show, "InFormation," at Jewelers'Werk in Washington, D.C. Her table "filled with a landscape of colorful bangles" was the scene of "a little bit of frenzy of trying things on," she says. In 2017, Eife found she could afford to add a 3D-printed silver collection to her nylon work. That year at the PMA show—garnering an Excellence in Jewelry Award—she found each attracted a different audience. This March, together with JV Collective, a group of five jewelry artists[3] who share a space in South Philadelphia, Eife will attend Munich Jewellery Week/Schmuck for the first time. Inevitably, she says, her 3D work provokes comments and questions from people intrigued with the concept; "mostly positive, but occasionally not." Eife recalls a viewer declaring a piece to be "too 3D," and in need of embellishments. "My feeling on that," says Eife, "is that it discounts the work put into building the file in CAD, and also my intention to make a form that I believe should exist on its own. That being said," she adds, "the new pieces I am working on for Munich are shell-inspired nylon forms that incorporate silver and pearls." They'll certainly be among her Instagram postings—"just part of the job," she says.

Andrea DiNoto is a New York–based writer on art, craft, and design.

1 The Smithsonian Craft Show's official, and somewhat mystifying, position on CAD/CAM and 3D printing states that it is "acceptable to submit work" in which these industrial technologies are used "but not acceptable when these technologies are used to actually make the final product." Eife exhibited at the Smithsonian Craft show before the directive was put into effect. / 2 Eife uses the 3D printing company Shapeways (a SNAG member) to create both her nylon and silver forms. 3D printers can produce objects from filament, powder, liquid resin, or wax, according to designers' requirements. / 3 The members of JV Collective are Melanie Bilenker, Mallory Weston, Leslie Boyd, Sarah Rachel Brown, and, formerly, Emily Cobb.

Furthermore: www.mariaeife.com

GORAN KLING

BY BELLA NEYMAN

Swedish jeweler Goran Kling in his residency studio at the 92nd Street Y.

"NEW YORK IS a jewelry metropolis!" exclaims Swedish artist Gorän Kling. "To be able to have something cast with a two-day turnaround, then finished, plated, or have a stone setting done all on the same street is really incredible!" Equally incredible to Kling is the opportunity to take over the city's 92nd Street Y Jewelry Center, and have at one's fingertips 2,200 feet of studio space. Last summer, he was chosen from a large international pool of applicants to be the first Resident Artist at the esteemed Jewelry Center.

The Jewelry Center is a far cry from Kling's studio in Sweden, which is located on an industrial lot in a small house that is awaiting demolition. He shares the space with a graphic designer and a photographer. Kling admits that he doesn't need much more than a bench, a few wax carving tools, and casting materials. Yet this basic setup has not kept him from becoming a breakout star in his field. Known for his cast rings with smiley (or frowny) faces, cannabis leaves, or slogans like "4 Life," Kling recently worked with Adidas and counts rapper A$AP Rocky as a client.

Growing up in Hägersten, a district of Stockholm, in the 1980s, Kling's exposure to American pop culture was limited. His first memories were of watching bootleg '70s graffiti movies, that, like a forbidden fruit, were copied onto videotape and passed around from friend to friend. The Internet, of course, blew everything wide open. Yet the infatuation and romance with American pop culture remained the same, and, according to Kling, is very much evident in work of artists of his generation. For Kling, hip-hop culture is uniquely tied to America. Even though, he admits, "Our idea of what is American pop culture, with the Internet, stopped being just 'American.' Hip-hop, which is viewed as an American phenomenon, now exists everywhere around the world." Nonetheless, he has remained fascinated by it, and more specifically its bling: the large gold chains with the Jesus piece, chunky Rolex watches, and most importantly, the big iced-out rings. By appropriating these references, Kling makes bad taste good again, creating one-of-a-kind versions of the mass-produced jewelry that is often fake.

The Residency at 92Y has long been a dream of the Jewelry Center's director Jonathan Wahl. Every year, when classes are on summer hiatus from mid-August to mid-September, the studios are empty. Wahl saw an opportunity to turn the underutilized studios into a hotbed for emerging talent. "Regularly attending Schmuck [in Munich] and seeing the breadth of international work there made me realize that we do not see much of this talent in New York City," he said. "I wanted to attract artists to NYC and 92Y by creating the residency and offering them travel, housing, and unlimited access to the studios for one month.

Furthermore: www.92y.org/jewelry-residency.aspx

An assortment of rings by jeweler Goran Kling.

The point of the residency is to expose someone to New York who might not otherwise be here."

As any artist will tell you, leaving the confines of your studio is just as important to process as the time spent there. For Kling, New York is a constant inspiration, and being able to create here was vital. "The immediacy of going to work after seeing something," versus being here as a tourist and trying to relive the moment once at home, was exhilarating. Kling spent his days wandering the city and his nights at the studio. It may be a cliché, but certainly the streets are the best teacher. "The Metropolitan Museum of Art and its collection of historical jewelry has been a great inspiration, but so has the pawn shop that I pass on my way to the subway," he says.

The benefit of working in a large, well-equipped studio like the Jewelry Center's is the ability to try different tools and machines that are too costly to invest in. While Kling did not change his method of working, he was able to experiment with new wax-carving tools and other machines (the Jewelry Center has a dedicated 470-square-foot Wax Carving and Enameling studio). Kling sees importance in meeting people and having a dialogue about what jewelry means to them. Interactions with the Y's students at several wax carving workshops provided him with the feedback that is virtually nonexistent when making in solitude. "For the last years I have been working with a reference-world that is very much based in American culture, so to be able to show and talk about that here has been really fruitful. In a way it becomes a kind of litmus test for the whole project. The most interesting conversations I have had here have been listening to people trying to explain what that American jewelry tradition is. Stories about a boyfriend's class ring from the '80s, or the effort of saving up to buy a fat gold chain."

A graduate of the prestigious Konstfack, University College of Arts, Crafts, and Design, in Stockholm, Kling was pushed to consider how his jewelry would be worn, and how he would make a living post graduation. Attracting a new, young audience was his goal, so Kling had to reconsider his technique and process. He recognized the need to make affordable work and settled on casting forms in silver. Kling plays with iconography normally attributed to inexpensive junk jewelry, making numerous wax molds and casting the ones that are most successful. If one design is not to his standards, or not well received by his clients, he melts down the wax and starts again.

With New York City as an extension of the artist's studio, the 47th Street Diamond District left the greatest impression on him. While he is still unsure of what New York–related iconography will show up in his new body of work, he is excited about "a magic box of old wax model scraps" that he found in a jewelry supply shop on 47th Street. "They were all defective in some way and had therefore been discarded in the making process, probably some 20 or 30 years ago, judging from the designs," he says. "There were halves of nugget-rings, Mickey Mouse heads and feet but no body, and crucifixes with Jesus without an arm and a leg. It felt like finding ancient artifacts of this story of American jewelry that I'm so fascinated with. They were so perfect in their imperfection that I had all of them casted exactly as I found them. I'm not sure exactly what will become of castings in the end, but it felt really special going through that box in a sweaty stairway on 47th Street, then handing it for casting at a hypermodern casting facility just two doors down."

Kling has built a following on social media, a tool that is just as important as anything else found on his bench. It was thanks to Instagram that A$AP Rocky's management team reached out to him, but he also uses the platform to share his process, recently posting an image of Bart Simpson in wax; definitely a testament to the enduring stronghold of American pop culture. After all, what's more American than the Simpsons?

Wax models in progress on Kling's studio bench.

Bella Neyman is a New York–based curator and journalist specializing in contemporary jewelry.

Photos: Rod Morata/Michael Priest Photography for 92nd Street Y.

PARIS COMES OUT

BY URSULA ILSE-NEUMAN

Florence Lehmann
Cônes d'ombre et de lumière (Cones of Shadow and Light), 2017
two magnetic brooches, resin
Photo: © Florence Lehmann; Courtesy Maison de Victor Hugo

Asagi Maeda
My Life With Beds (bracelet), 2017
silver, gold, acrylic, tourmaline, opal, stone beads
Photo: Koichiro Siiki; Courtesy LA Joaillerie par Mazlo

THE PARIS PARCOURS BIJOUX 2017, held during the period known as *l'été de la Saint-Martin* (Indian summer), was an art jewelry treasure hunt with more than 50 venues. From the Left Bank to the Right Bank and back again, there were surprises at every turn: porcelain brooches sold at a chocolatier; chocolate brooches sold from a mobile jewelry cart at the Centre Pompidou; a mousetrap with a diamond for bait in a high-end jewelry gallery; and necklaces worn by a disquieting array of creatures in a taxidermy emporium. This was a Gallic coming-out party, with France firmly making its case to be on the map, if not at the forefront, of contemporary art jewelry.

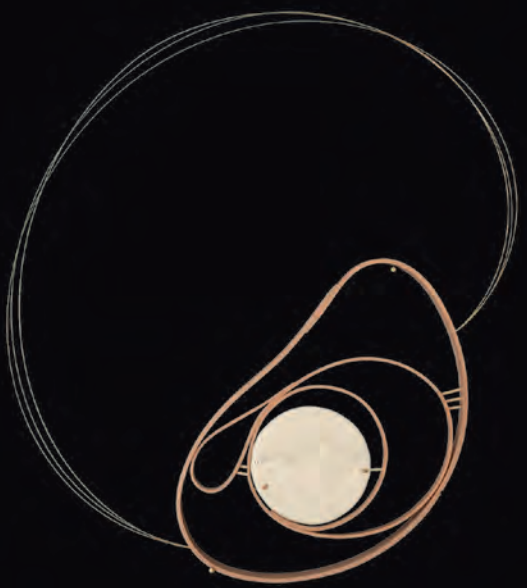
A remarkably diverse group of galleries featured exhibitions of recent jewelry under intriguing titles—"Emotional Nudity," "Gluttony," "Zooanthropia," "Life, Love, Death," "Beyond the Comfort Zone," "I was Expecting Something Else"—and the works delivered more often than not. At the center was "Medusa: Bijoux et tabous," a tour de force exhibition at the Musée d'Art Moderne de la Ville de Paris.

Nine outstanding pieces are presented here, each unique in spirit, approach, and technique. Three of them appeared in "Medusa," standouts amid the staggering array of jewelry that unfolded across galleries too numerous to count. Dorothea Prühl's *Butterflies* necklace may well represent the paradigm of contemporary jewelry in its purity of form, elegance, and technical mastery. Coming from quite different dimensions were Dominic Elvin's futuristic electronic jewelry with its suggestions of an age of augmented sensory perception, and Betony Vernon's provocative boudoir chest that treats the age-old allure of sexual paraphernalia with a jeweler's eye.

Just when I thought I could never select only a few from the plethora of compelling objects, the works on these pages grabbed me with both their immediacy and lasting impressions.

Ursula Ilse-Neuman is Curator Emerita at the Museum of Arts and Design, New York.

Dorothea Pruhl
Butterflies (necklace), 2008
cherry wood
Photo: Ursula Ilse-Neuman; Courtesy Musée d'Art moderne de la Ville de Paris



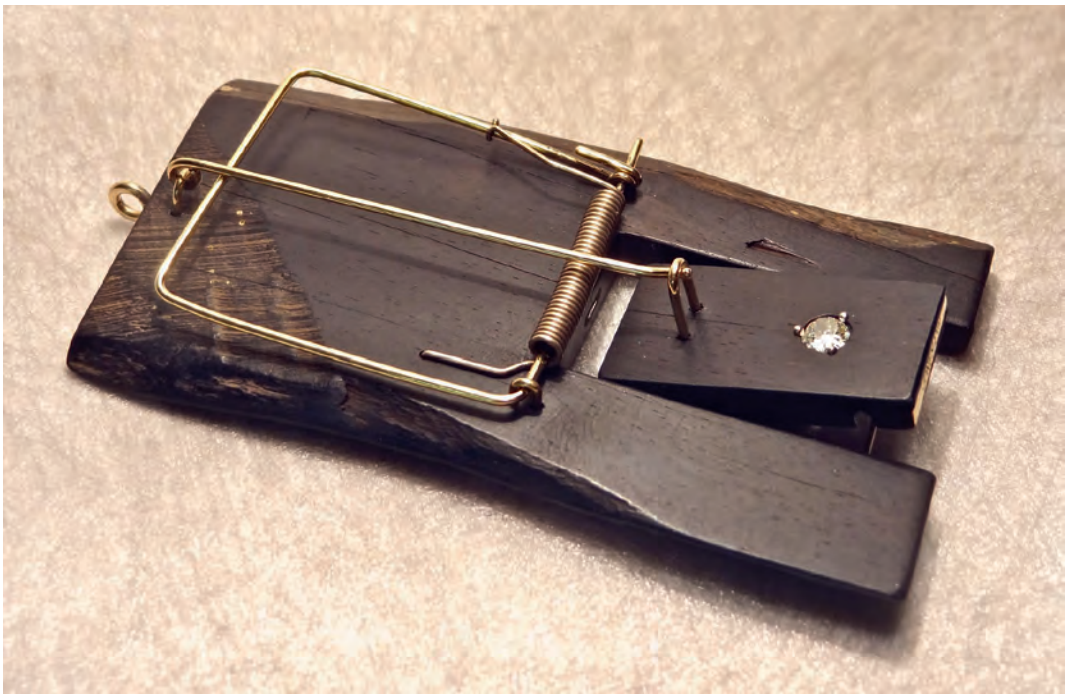
Mathilde Bascaules & Stephanie Chloe Bila
Casmaria? (necklace), 2017
beech wood, porcelain, gold plated brass
Photo: M. Bascaules and S. Bila; Courtesy Curieuse Galerie

Betony Vernon
Boudoir Box, 2000
sterling silver, leather, and feather accessories in leather case
Photo: © Pierre Antoine; Courtesy Musée d'Art moderne de la Ville de Paris

Ana Cristina Berrio-Betancur, Alejandra Ferrer-Escobar & Liliana Molina-Moreno
Brooch (untitled) from "Xocolatlummm" series, 2017
chocolate
Photo: Xocolatlummm;
Courtesy Parcours Bijoux 2017

Dominic Elvin
Flourotec Cybernetic Head System, 2017
acrylic, steel, epoxy clay,
Swarovski crystals, LED light
Photo: Stéphane Grand;
Courtesy Musée d'Art moderne de la
Ville de Paris

Gilles Jonemann
La gourmandise est un vilain défaut (Gluttony is a nasty defect) (pendant), 2017
ebony, 18k gold, diamond
Photo: Gilles Jonemann;
Courtesy Gilles Jonemann and Galerie Naïla de Monbrison



Etienne Bourgeois
L'Invitation au Voyage Minuscule (Invitation to a Miniature Voyage), 2017
silver, 18k gold, silk, steel (springs), tourmaline, with sycamore and brass box
Photo: Simon Lemarchand;
Courtesy Rocket Gallery

PETRA ZIMMERMANN'S VANITY FAIR

Everything old is new again as Petra Zimmermann recycles vintage objects and timeless ideas in her jewelry.

BY LIESBETH DEN BESTEN

Vanitas vanitatum et omnia...
(necklace), 2017
silver, niello,
red and yellow gold
diameter 5 7/8"

Brooch, 2003
niello, blackened silver
4 3/4 × 3 1/8 × 5/8"

For centuries Vienna was a cosmopolitan city in the heart of Europe, a center of music, the Austro-Hungarian empire, and of the *Kunst und Wunderkammern* (Art Collections and Cabinets of Curiosities). Today Vienna is foremost a city that once *was* all of these things, a city of nostalgia. The bloom of contemporary art and design during the early-20th-century Wiener Werkstätte movement could not prevent the city's gradual shift into a place that is now known for rather conservative and restrained taste.

Yet the city is not devoid of adventurous artists. Petra Zimmermann is one of them. Her work assumes a special position in the world of contemporary jewelry. Although dealing with themes, materials, and processes (recycling vintage jewelry, casting acrylic, using print and imagery) that are widely accepted in contemporary practice, her approach reveals a distinctly sculptural character, and a strong alliance with her cultural context. The city of Vienna provides an interesting hunting ground, where a Saturday visit to the flea market becomes an integral part of her art; there's a good chance she'll find outstanding pieces of vintage fashion jewelry there. These conditions, along with her conceptual approach to jewelry, contribute to the uniqueness of her work.

AS ATTRACTIVE AND DECORATIVE AS ZIMMERMANN'S JEWELRY CAN BE, IT IS LIKEWISE DEEPLY ROOTED IN CONCEPT AND PROVOCATION.

Born in Graz, Austria, in 1975, Zimmermann came to jewelry by chance, but her initiation was probably the best one could get. Before even starting to study art or jewelry, she subscribed to a five-week course at the Summer Academy in Salzburg in 1996, which was then run by jeweler Peter Skubic. Here she first learned about the idea of jewelry as an artistic medium. During this period, one could not pursue concentrated jewelry studies at an Austrian academy, as Zimmermann explains. "In the 1990s there was this tendency in Austrian art education to adapt to new developments in art, with interdisciplinary classes coming into being, and the medium not seen as central as the idea or concept."

After the Summer Academy, Zimmermann sought to learn more about jewelry, and continued her studies in Bratislava (Czech Republic), at the Academy of Fine Arts and Design in 1996, under Karol Weisslechner. At the same time, she felt attracted to fine art, and the next year she enrolled in the Class for Transmedia Art, at the University of Applied Arts in Vienna. The education suited her, as she explains: "I think this open discourse shaped my views, and incited me to start making jewelry. It was not about approaching something from a jewelry perspective, but starting from an interest, an idea, and deciding every time anew on jewelry as the best medium." Zimmermann is most interested in art that is difficult to categorize, that hovers at the crossroads of art and fashion or design, and designer-artists such as Martin Margiela and Manfred Nisslmüller. "To ignore Nisslmüller's work in jewelry," she claims, "is like denying Marcel Duchamp's importance in art."

Most Americans and non-German-speaking people are unfamiliar with Nisslmüller (Vienna, 1940), but Zimmermann's acknowledgement of him shows her indebtedness to conceptualism. Nisslmüller, who was trained as a goldsmith, has been known since the mid

Rings, 1998
left: polymethyl methacrylate, obsidian, stainless steel
right: polymethyl methacrylate, gold

Ring, 2000
polymethyl methacrylate, gold

1970s for trying to broaden and deepen jewelry's range through the inclusion of texts, often philosophical and not without humor. The material properties of Nisslmüller's jewelry have a radical character, sometimes reworking fashion jewelry, or replacing a gem with a piece of meat, or a brooch with a recording of the repeated word "brooch." As attractive and decorative as Zimmermann's jewelry can be, it is likewise deeply rooted in concept and provocation.

In 2000, only four years after Zimmermann encountered contemporary jewelry, she had her first solo exhibition at Galerie Biro in Munich. The work and exhibition were both called "Schmuck im Schmuck" (Jewelry in Jewelry)—a title that exactly described what was shown: pieces of secondhand costume jewelry partly encapsulated in colored translucent plastic. The jewelry (mostly rings) was sculptural, and contrasted with the vintage pieces bulging out from within. Zimmermann readily acknowledges that she is a child of her time: "To deal in a self-referential way with art or one's own medium was in the air in those days. I wanted to thematize the essence of jewelry as such, to work with a visual vocabulary that is understood by everyone. Costume jewelry can of course be interpreted as the epitome of false shine, superficiality, and hedonism. The aesthetics of conventional fashion jewelry were condemned at that time within contemporary jewelry, but that didn't bother me. Even today it's as if everything that shines and radiates is not trusted."

Zimmermann calls the vintage jewelry she selects to work with "culturally semi-manufactured, and carriers of a narrative." She only chooses to use vintage pieces if they have a history written into them, something stereotypical or easily legible. Each cast acrylic form that contains an older jewelry piece is a bespoke sculptural body especially made for the vintage item. Cast in brightly colored acrylic with flecks of gold leaf, each serves as a throne for the historical object, elevating it and allowing it to shine anew. Her treatment merges two different jewelry genres into one, a hybrid that still carries the stories of former life but already points to future possibilities and narratives. Zimmermann showed her sensitivity to period styles by using early-20th-century wallpaper to surround her jewelry exhibition at Galerie Biro, and again two years later at Galerie OONA in Berlin.

Given her interest in jewelry as a cultural phenomenon, Zimmermann has also turned her attention to the brooch format. While there are many vintage brooches to be found, it struck her that brooches are not directly body-related, or, as she puts it, "The brooch does not bear the mark of jewelry." She started to explore the brooch's supposed freedom from the body, an independence that is so valued among contemporary jewelers. Her first involvement with the brooch was a series of figurative work she called "Cut-Outs and Pin-Ups" (2003–04). Images of people within jewelry are typically personal and not meant to be openly displayed; they are mostly hidden in lockets and viewed in the private sphere. Counter to this, Zimmermann's brooches enlisted photos of women in revealing and outright "sexy" poses, focusing

Pin-Up VI (brooch), 2004
polymethyl methacrylate, rhinestones, onyx beads, pyrites, gold leaf, gold, blackened silver
5 × 2 7/8 × 3/4"

Untitled (necklace), 2008
polymethyl methacrylate, printing ink, crushed pearls, onyx beads, white lower figures:
5 5/8 × 4 1/4 × 5/8"

HER INVOLVEMENT WITH VINTAGE JEWELRY HAS REMAINED A CONSTANT, HOWEVER, AND THE ROLE OF SECONDHAND ORNAMENTS APPEARS TO BE GAINING PROMINENCE.

attention back to the wearer's own body. As Zimmermann says, "By detaching the image from its media context and using it as a subject for jewelry, it becomes an ironic commentary on both the subject and the brooch itself."

The cutout image is not simply used ready-made, but instead meticulously reproduced by painting directly in acrylic, a technique that Zimmermann invented herself. She discovered that there is a certain moment in the hardening process of clear acrylic when it behaves like wet watercolor paper. It is a very brief moment, and one must act quickly when painting with liquid hues intended for transparent acrylic. After applying layers of color, gold leaf is added on the back, making the image deeper and richer. The process is like reverse glass painting, but

in the end the image is turned around for polishing and a layer of rhinestones is added. Zimmermann sees these stones atop the image as "a sort of sketch for the painted layer underneath." While the posed model in the photo is deprived of her individual character, Zimmermann glorifies her as a gem in a setting; the cliché is made beautiful and rare. Zimmermann has also experimented with other techniques, including setting images on long chains with double pendants, as those exhibited at Ornamentum Gallery in 2013. She ultimately concluded that "image and jewelry" were "not going well together," and in recent years her work seems to have grown more abstract. Her involvement with vintage jewelry has remained a constant, however, and the role of secondhand ornaments appears to be gaining prominence. For example, she has begun using shoe buckles, belt buckles, and handbag clasps to completely cover or define the top of a ring or bracelet. In a 2017 ring, a metal mesh purse is encapsulated within a blue acrylic body, with the purse's gilded clasp serving as the claw-like setting for a stone. More recently, Zimmermann started taking the clasps and handles of bags as independent subjects in their own right. These purse

Ring, 2017
PMMA, silver, stone

Brooch, 2017
gilded alpaca,
amethyst drops and beads,
glass beads, silk
3 1/8 × 2 3/4 × 2"

Untitled (brooch), 2017
alpaca, black ruthenized, historical glass and metal beads, silk
4 1/8 × 3 3/4 × 2 1/8"

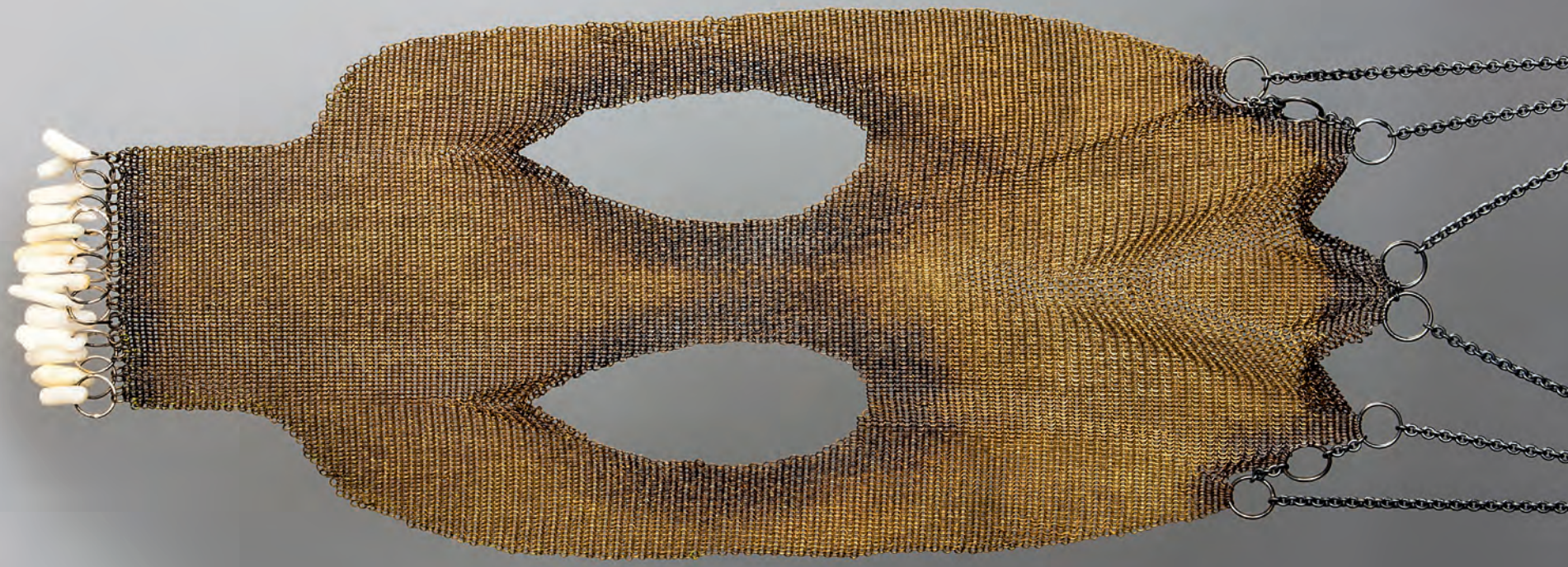
parts are transformed into strangely refined abstract compositions adorned with pearls, glass beads, and precious stones, often set within the hardware of the handle or clasp.

Zimmermann's use of these vintage trinkets reflects our own hedonistic quest for beautification and ornamentation. This vain pursuit is further expanded in her new body of work on the ancient theme of vanitas. In her *Skull* necklace (2017), brass mesh is transformed into a flexible skull pendant, dangling from chains. Another necklace comprises the old-testament text "Vanitas vanitatum et omnia vanitas" (vanity of vanities, all is vanity). Arranged in a circle, the text reads as an endless loop, with the word "vanitas" used only once to start and end the phrase. She chose a typeface from 1901, the Behrensschrift font by Peter Behrens, which was revolutionary in its time but now seems outdated and "typically German." Mixing history and contemporaneity, Petra Zimmermann again demonstrates that transiency and vanity remain proper motifs for the jewelry of our time.

Liesbeth den Besten is an independent art historian, based in Amsterdam.

Untitled (bracelet), 2017
gilt alpaca/silver, historical fashion jewellery fragments, polymethyl methacrylate
4 1/8 × 3 3/4 × 2 3/8"

Opposite:
Skull II (necklace), 2017
brass, silver, gold, white coral
skull pendant:
8 5/8 × 3 3/8"



The Fluency of Objects:

Simone ten Hompel

Simone ten Hompel's finely wrought functional objects transport one from the tangible into the intangible realm.

BY MARJORIE SIMON

Ein ganzer Satz-108 spoons
(detail), 2010
precious white metal,
sterling silver
dimensions variable
Photo: Sussie Ahlburg

"In order to understand the everyday, we need the extraordinary."
—*Simone ten Hompel*

The video clip opens to a scene of a northern lake, with a swimmer's arms arcing out of the water. Water sounds follow. The swimmer is German goldsmith Simone ten Hompel. "Hot," she says, as the screen shows her heating a blank for a spoon; while shown swimming, her voice overlay says "cold."[1] She cuts out bowl shapes from white paper, then traces them onto silver sheet. The pencil scratches on the heavy paper and ten Hompel narrates: "Your first ice cream spoon. Treated to an ice parlor, you get a flat spoon, cold, you put it in your mouth, you put it in your mouth upside down and it covers the roof of your mouth and it's SO COLD from the ice and it's something you always remember. Whenever I see them, shallow and flat, I will instantly think of my grandmother."

Walter Benjamin wrote about the moving image in his 1936 essay, "The Work of Art in the Age of Mechanical Reproduction;" He considered film, with its potential for infinite reproduction, antithetical to "authentic" art; that is, the one-of-a-kind painting or sculpture.[2] He could not have imagined that an authentic artwork might be a film about an artist at work. British filmmaker Matt Hulse collaborated with ten Hompel on the video *Confluence,* for her 2016 retrospective "Confluence/Konfluenz" at Ruthin Craft Centre, Wales. Despite the long-time acceptance of film as Art, pairing image and object is still relatively uncommon in the craft world.[3]

From the outset, ten Hompel and the exhibition's curator Amanda Game knew that film would be part of the show. Hulse and ten Hompel agree that the video is a true collaboration and not a documentary about the artist and her work, but a lyrical realization of the intimate choreography of maker and object: the sound of steel hitting metal; the hiss of the torch; the susurration of emery paper on metal; and the artist's own narrative. "There is a dialogue between the metal and myself . . . " she muses in the film. "[M]etal has an empathy with the capacity of forgiveness . . . I have to read the metal, its conditions and act accordingly. Different properties require different reactions. The energy can flow either way between us."[4]

As Benjamin noted more than 80 years ago, film brings our attention to heretofore "hidden details of familiar objects." Hulse's close-ups and birds' eye views reveal the swoonworthy details of ten Hompel's objects: formal and textural contrasts, edges, the transition from handle to bowl in a spoon, the thickness of the handle. To Hulse, her hands are the embodiment of the film; hands are everywhere. Sound and movement are always present at the creation of these silent objects, and ten Hompel's physical presence shows how hands mediate between intention and object. Her calm, low voice seems to be speaking to and for the metal as well as to the camera. "I hold it, I hammered, I made it from scratch." A softly white finished spoon perches on a table, looking, ten Hompel says, "almost attentive." Shot from the table's edge, the slightly upturned angle of the bowl makes it appear expectant and inquisitive.

Elsewhere, ten Hompel expands on the primacy of spoons as cultural objects. "Spoons are essentially life-enhancing tools . . . and a symbol of culture. With one of my spoons (which is made of two pieces, a front and a back) I am speaking of cooperation, balance, division, and separation of function . . . "[5] To hear ten Hompel's reminiscence is to understand her longstanding attachment to the spoon as domestic culture object. "Spoons are the first and last tools we use in our life," she says. The mouth is the first contact with the world outside the womb. A baby opens its mouth to accept the spoon carrying food. Lips close over the bowl.

Simone ten Hompel in the workshop, 2008
Photos: Sussie Ahlburg

Opposite:
Spoons, 2000-2007
precious white metal, sterling silver
dimensions variable
Photo: Sussie Ahlburg

The exchange implies responsibility and obligation of a relationship. To make a spoon is to acknowledge the potential for reciprocity. At the same time, spoons are objects that are about penetration and trust: "You beat the metal, and then someone puts it in their mouth," she says. Ten Hompel's spoons are welcoming and life giving, never aggressive or threatening.

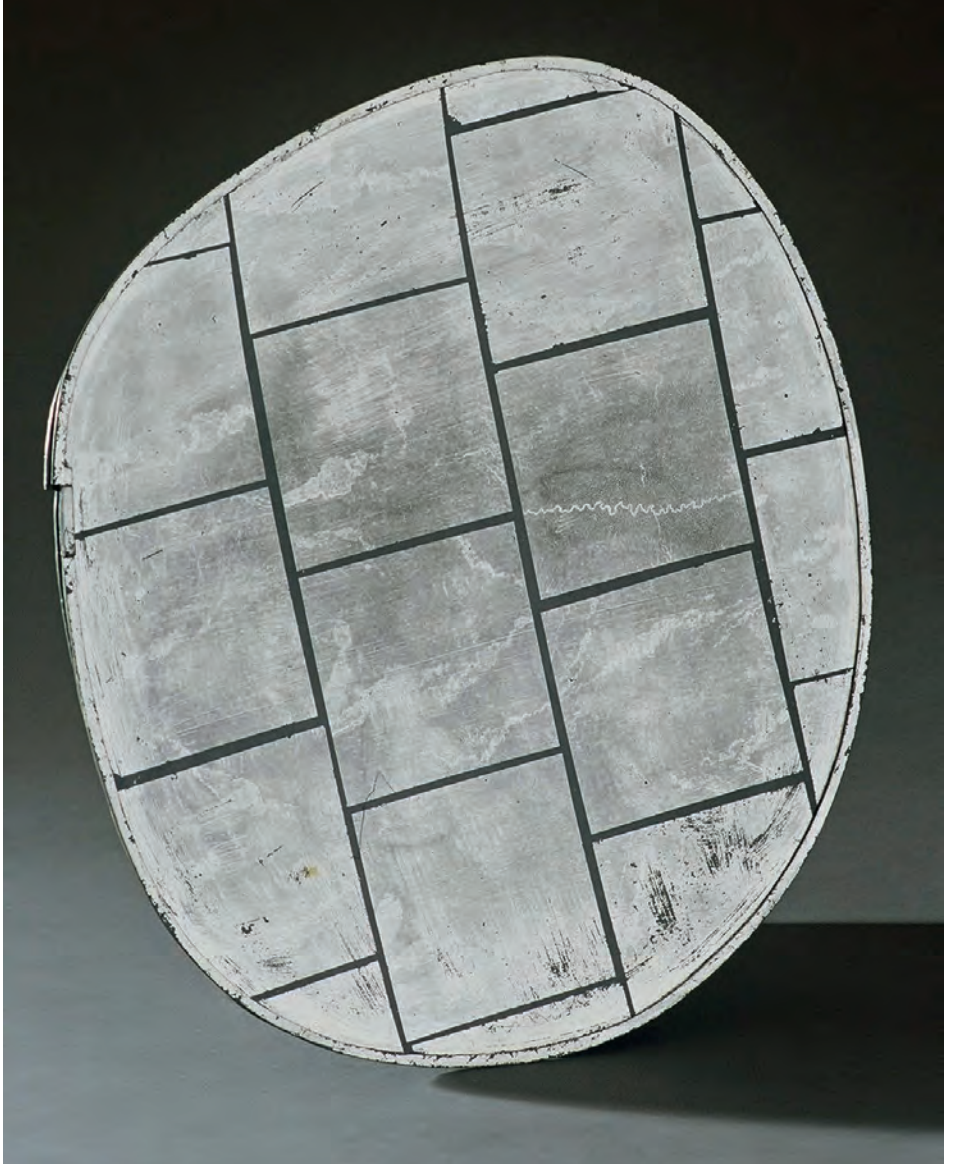
Readers may recall *Herbei, herbei, was Löffel sei!*, master goldsmith Hermann Jünger's 1993 book about the spoon. Ten Hompel relates that Juenger adapted a German folksong, *"herbi-herbei-zu-meinem-sang"* for the title of his book, making it, at least for Germans, a familiar reference to a familiar object. The book contains images of spoons of all kinds, with no special value other than Jünger's collection of memories. The very first spoon pictured, the *Kriegs loeffel 1914–1918*, a misshapen "War Spoon," was carried in the pocket of Jünger's uncle during the First World War, in which it was reputed to have saved his life by deflecting a bullet.[6]

Ten Hompel was born in Bocholt, Germany, a pre-medieval town in North Rhine-Westphalia, a few kilometers from the border of the Netherlands, that was for a long time a center for weaving. At her birth it was a small city of about 45,000, where her father had a weaving factory. Today, the town's Textile Museum captures not only the flavor of the factory and workers' living quarters but detailed images of the industrial looms, with their weights, gears, iron, leather, wood, rollers, shuttles, and programmed cards.

A self-described product of her German environment in the 1960s and '70s, ten Hompel refers not only to her Catholic upbringing, with its emphasis on ritual and majestic presentation of sacred objects, but also the traditional culture of pragmatism and practicality in the postwar affluence and industrial growth within West Germany. During this expansive period, her father built a new building at his plant, which became an exciting playground for his young daughter. Here she absorbed the culture of industrialization and pride in the justly renowned German-made tools.

But the defining characteristic of ten Hompel's creative development is without a doubt her severe dyslexia. She has

But the defining characteristic of ten Hompel's creative development is without a doubt her severe dyslexia.



Dish, 2004
gilding metal,
palladium leaf
14 1/8 × 11"

often referred to herself as "an excellent dyslexic." Her wise parents supported her in working with her hands. Her father allowed her to roam freely through the factory, encouraging her love of tools and her ability to repair the machines. It is easy to see how a mechanically precocious child would have blossomed in an environment of so much activity, with a tangible product as the result. Life in the factory took place between hand and machine, not reading and writing. Ten Hompel considers herself one of those lucky individuals who wants to know how things work, who can figure them out, and make them herself. Her mother searched out one of the excellent German trade schools that emphasized practical learning, and as a young teenager she was introduced to the world of materials. But her affinity was always to metal, and at age 13 she became apprentice to a locksmith, attending school part time.

After completing an apprenticeship in blacksmithing, and then in jewelry study at the Fachochschule in Dusseldorf, ten Hompel still had not found the perfect fit for herself: "I had not got to the stuff which was still within me," she says.[7] She headed to London and, in 1987, despite speaking little English, entered the Royal College of Art. She never looked back. Professor David Watkins reached out to this quiet student, making an effort to communicate with her through drawing. He encouraged her to be thinking and questioning. She remained in London and received her degree in 1992. That same year she was included in "Influential Europeans in British Craft and Design," a traveling exhibition of British immigrants who had arrived since 1930. In 2005 she was awarded the Jerwood Applied Art Prize in Metal, the most prestigious prize in British contemporary applied art and the first-ever awarded to a metal artist. In 2012 she won the Bavarian State Prize in Munich.

Ten Hompel now holds a half-time teaching position at London Metropolitan University. Her commitment to teaching derives partly from her own academic experience: she wants people to have an easier life. Now technology assists her through aural translations of texts and keeps her fluent in the discourse of the field. While her unconventional education has made her sympathetic, ten Hompel's very practical upbringing impressed upon her the value of "just getting on with it." Moreover, she is noteworthy for not making her students "use her intellectual or aesthetic vocabulary."[8]

While sometimes wonky, ten Hompel's classical forms are controlled and pregnant with implied movement. Many of them swell into a slightly gravid bearing. As revealed in the video, the painstaking handwork is in service to form and surface, and no fussiness intrudes on the completely resolved shape, edge, and gently bellied bowl. Spoons hanging on a wall congregate in animated groups, conversing, responding, and relating to one another. Unadorned, they seem to nod and acknowledge each other while

While sometimes wonky, ten Hompel's classical forms are controlled and pregnant with implied movement.

maintaining their individual autonomy. In videos they rock vigorously, accompanied by the sound of ringing metal. They may be paired with other domestic objects such as bowls or beakers. They often nest. The English expression "spooning," two bodies fitted together, is, in her words "a platonic way of nesting."

Like many artists, ten Hompel commonly works in series. With more than one of something, there's the possibility of a relationship. Having made one, you want to push the form or the idea: the *what if?* of making. Among the beakers and goblets that comprise the Jerwood Prize submission is a group of 12 vessels called "Posse," inspired by observing the nearly identical members of a group of teenagers. "When I saw these gangs, I noticed that all the kids wanted to be individual," she says. "But they were only ever as individual as the cliché of their particular group allowed them to be."[9]

Sensitivity to the relational aspect of *things* makes ten Hompel a potent collaborator. Prior to her partnership with filmmaker Hulse, she collaborated with British potter Julian Stair in the exhibition "Re-Naturing the Vessel," which opened in 2015 at Galerie Rosemarie Jaeger, in Hochheim, Germany. Originally Jaeger had invited the two artists for a conventional two-person gallery show, but Stair and ten Hompel proposed something frankly collaborative.

"We decided to show a limited range of forms common to the history of ceramics and metalwork—cups, beakers, plates, spoons and bowls . . . " Stair wrote. "[We] discovered that at the root of our practice was a shared philosophical position about the central value of materials culture. We felt, and feel, strongly that cognitive understanding of art should draw on haptical appreciation as well as intellectual analysis . . . "[10] The potter and the metalsmith had known each other for 20 years, but hadn't worked together before Stair invited ten Hompel to collaborate with him. He came to her studio and, under her supervision, made a metal spoon. As a trial they made work together, which freed up a kind of communication. Although each worked separately for the better part of a year, their fundamental sympathy aligned the results. Ten Hompel describes

Top:
Posse (12 beakers), 2004
from Jerwood Prize exhibition
precious white metal, sterling silver
height 2 3/4"
Photo: Sussie Ahlburg

Bottom:
Untitled (four cups and spoon on base), 2016
From "Confluence" exhibition
precious white metal, sterling silver
Photo: Katrin Schilling

Collaboration with Julian Stair
From "Re-naturing the Vessel" series, 2016
porcelain, silver, gilding metal
Photo: Katrin Schilling

their unpacking in the gallery as "tumbling down a hill, we had so much in common."

Stair's pots and plates marry well with ten Hompel's vessels and spoons. The color palette of white, grays, ochre, and black clay mirrors the range of metal colors of moon white to oxidized silver, red-brown copper, and black iron. Simple geometric shapes—square, rectangle, circle—soothe the eye, and subtle textures invite the hand to interact. Though clay and metal seem antithetical—metal has structure to work with or against, while clay is open-ended mud—the vessels harmonize in the scale of intimate domestic objects.[11] Occasionally, even the materials are visually conflated: is the base copper or clay?

Craft artists ultimately communicate with their hands and send their ideas out into the world in their objects. Users then enter into an implicit exchange with the makers. Jewelry, for example, placed directly on the body and warmed by the metallic blood pulsing beneath the skin, is all about memory and all about the body. As illustrated in O. Henry's short story, "The Gift of the Magi," domestic objects also dwell in the country of memory. Whether containing necessities or adornments, they acquire recollected layers of rituals and relationships. They are not neutral; nor are Stair's and ten Hompel's objects.

Ten Hompel has said repeatedly that metal is her first language. In fact, German is her native tongue, and articulate English a second. One of her favorite and most descriptive words is "stuff." Once it referred mainly to textiles, specifically woolen fabric, as distinguished from one of greater value, such as silk. It's become an umbrella term suggesting an indeterminate quality of matter or material; a tangible quantity; what dreams are made of; or the aggregate of one's personal possessions. There's an ordinariness about it. Ten Hompel's affection for "stuffness" suggests an embrace of both the tangible and intangible aspects of this supple word.

Ten Hompel habitually navigates a text-driven world in which she cannot fully participate. To watch Hulse's video is to understand why ten Hompel says the language of metal is "a negotiation between hand, heart, head, and material." She has a fundamental need to make things that hold together, not unlike the weaving she saw early in life. Dyslexia is the backstory to hearing ten Hompel's Proustian moment with the ice cream spoon. The counterpart to her classical approach to making—purity of material, aesthetics, craftsmanship, and content—is the dreamy 21st-century imagery and soundtrack of Hulse's video. Film tells a story, but objects also tell a story. Together they make the point that there are many ways to learn and to communicate what we know.

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1 Available on Ruthin Craft Center website and FILM: Real to Reel: The Craft Film Festival Trailer 2017 on Vimeo May 2017 https://vimeo.com/216201359 / **2** *Illuminations.* "The Work of Art in the Age of Mechanical Reproduction," Shocken Books, NY, edition 1988 / **3** In "Unexpected Pleasures" curator Susan Cohn incorporated video in her installation, seen in Melbourne. Other practitioners, including Kristin Beeler, Maisie Broadhead, and Marian Hosking, among others, have used still photographs in their installations./ **4** http::mdbarchitect.com/mdby/mdby-simone-ten-hompel / **5** Isabelle Busnel, "The Stuff of Memory," Spoons by Simone ten Hompel, at Contemporary Applied Art in London, 15 December, 2010. http://thinkingthroughthings.blogspot.com/2010/12/spoons-by-simone-ten-hompel.html / **6** Personal communication with the artist / **7** http://mdbarchitects.com/mdby-simone-ten-hompel / **8** *Craft Arts International,* no. 88, p. 34. "Always a Negotiation," by Corinne Julius / **9** *The Telegraph,* London, Sept. 3, 2005, Alastair Sooke / **10** Julian Stair, Catalogue essay, *Re-Naturing the Vessel,* Oxford Ceramics Gallery, England, 2016 / **11** On a larger scale, Stair's life-sized coffins, for which he won the Bavarian State Prize in Munich in 2017, also communicate without words.

Opposite, top:
Collaboration with Julian Stair
From "Re-naturing the Vessel" series, 2016
silver, porcelain, alabaster; valahromat, lime, marble powder, pigment
Photo: Katrin Schilling

Collaboration with Julian Stair
From "Re-naturing the Vessel" series, 2016
basalt, Etruria marl, brass, silver, valchromat, lime, marble powder, pigment
Photo: Katrin Schilling

The Peaceable Kingdom

of Linda Kindler Priest

BY ANDREA DINOTO

Previous spread, left:
Chick in the Grass
(two-part brooch), 2017
gold, sapphires,
chrome tremolite
3 × 1 1/2 × 1/4"
Photo: Berlian Arts

Previous spread, right:
The Pollinator
(two-part brooch), 2013
gold, sapphires, ocean
jasper, silver
5 × 1 3/4 × 1/4"
Photo: Berlian Arts

Pink Petal (two-part
brooch), 2009
gold, sapphires, cobalt
calcite druse, silver
5 × 2 × 1/4"
Photo: Gordon Bernstein
Collection of Boston Museum
of Fine Arts

The great Renaissance artist Albrecht Dürer learned engraving techniques from his father, a goldsmith, who guided him in the use of tools essential to both jewelry and printmaking. Master goldsmith Linda Kindler Priest, renowned for her work in the ancient repoussé method,[1] might also have taught Dürer how those same tools can enable an artist to sculpt exuberant life forms directly in precious metal. Her choice of subject matter, whether bird, fish, flower, bug, or beast—as common as a gray squirrel or exotic as a pygmy marmoset[2]—establishes her kinship with the Old Masters, who, like Dürer,[3] frequently included benign creatures as iconic elements in their pictorial, often allegorical, works. But Kindler Priest brings her life forms to the forefront, celebrating them in small-scale reliefs expressive of their special attributes, habitats, or even environmental challenges. A fish breaks the water; a hummingbird hovers; a polar bear strides an ice flow. (Forms are not exact renderings such as a naturalist or botanical artist might produce, but neither are they stylized in the extreme.) There are no frames around these plaques; rather, each animal or plant exists within an abstract shape that barely contains the form. As a result, the internal image appears free and unconfined; and in many instances it is,

Where is the Acorn?
(two-part brooch), 2017
gold, brown diamonds, silver
3 1/4 × 1 3/8 × 1/4"
Photo: Berlian Arts

literally, as indicated by a leaf, tail, or wing breaking the perimeter's boundary.

Kindler Priest uses many different kinds of gems, crystals, and minerals to serve as both base and accent for the plaques, in effect to add both context and color to her self-described "environments," most dramatically realized in her one- and two-part brooches. In the former or "singular" ones, as she calls them, the plaque is attached to the stone. These largely comprise her early work. But around 2006, she decided she wanted to make "a larger statement" and devised the two-part brooch, now her most highly developed form. For these, a plaque is paired with a single stone that functions as the centerpiece for a freestanding abstract design. Though conceived as a total work of art, the two-part brooch is constructed so that each part—gold or silver plaque and stone base—can be worn separately, affording the wearer a choice. When the parts are worn as one, the brooch appears as a single, conjoined entity, with smaller gemstones supplying accents or elaborate transitional links. Even on close inspection it is difficult to realize that no actual link exists.

In 2010, the Museum of Fine Arts, Boston[4] acquired Kindler Priest's 2009 two-part brooch *Pink Petal,* depicting a golden geranium blossom above a "vibrant, hot pink stone (cobalto calcite druse) bezel-set in silver." The curatorial statement observes that "when both brooches are worn together they form a continual, organic unit that is sensual and elegant."

Kindler Priest undeniably creates "wearable works of art," as she describes them, but her intention is not merely to create an elegant jewel. Her overarching aim as an artist is to honor nature by suggesting a narrative, be it humorous, poignant, or purely stylistic, as with the 2017 two-part brooch *1940 The End of Art Deco.* An Afghan Hound is posed in elegant profile above a scroll motif and a topaz crystal, the formalized image suitably invoking its title. "I strive for the total integration of metal form, realistic image, and stone," she has written, "each being equally important, balanced, and in harmony."[5] For a 2017 squirrel brooch, titled *Where's the Acorn?,* the inquisitive, bushy-tailed creature, rendered in gold repoussé, perches on a "stump" of chocolate-brown petrified wood alight with druzy quartz. *Dreams of the Big Cheese* places a gleeful mouse atop a chunk of yellow citrine "cheese."

The universal message in these works, as in all Kindler-Priest's pieces, is that

The End of Art Deco
(two-part brooch), 2017
gold, sapphires,
topaz crystal
3 1/2 × 1 3/4 × 1/4"
Photo: Berlian Arts

Gold Dragonfly (bracelet), 2017
gold, sapphires
2 1/2 × 2 1/4 × 1 1/2"
Photo: Berlian Arts

Her overarching aim as an artist is to honor nature by suggesting a

even the likes of a common squirrel in pursuit of dinner or a mouse's cheesy dream are worthy of the sculptor's demanding and most serious art. *Louis the Lop,* a fluffy lop-eared rabbit, might be thought comical, but as sculpted in blackened silver and sitting on a sapphire-fringed cushion of chrysocolla, he appears quietly self-possessed.

Kindler Priest is particularly fond of depicting baby animals—duckling, egret chick, baby elephant, to name a few. In her hands, they become more than endearing images; they express the sheer wonder of survival within dwindling natural habitats. She might use opals, crystals, and aquamarines to suggest water; the vibrant green stone chrome tremolite, with its fibrous markings, to mimic grass; or jasper's brown tones to evoke the earth itself. But these effects are so artful, so subtle, that a viewer is barely conscious of them as literal references.

While brooches justly command attention, Kindler Priest approaches the design of other jewelry forms with as much thought and commitment. Bracelets are conceived as bangles, with a gold relief as focal point. In *Crocus Cuff,* the trumpet-shaped golden flower thrusts itself out of a circle of pointy oxidized-silver leaves; in *Horse Cuff,* the animal canters alongside a river of undulating gold wire. For her showpiece, *Bee Hive* ring, Kindler Priest set a pyramidal, honey-colored quartz crystal over two cast golden bees mounted on a chased hexagonal-patterned band. A tiny honey-colored diamond nestles at the base of the quartz. "Even in rings I say something," she quips about this creation, in which similar-hued metal, honey, and stones combine in a metaphorical manifestation of sweetness, toil, and beauty.

In 2011, Kindler Priest was moved to create a deeply serious narrative piece with the necklace *Oil on Water,* which memorializes the disastrous 1989 Exxon Valdez oil spill in Alaskan waters. Five repoussé fish reliefs of oxidized silver, representing devastated sea life, alternate with eight bezel-set angular chunks of the rare silicate mineral chroite, whose lavender-purple hues reference oil's iridescent effects. One central gold fish plaque symbolizes, for Kindler Priest, the preciousness of life.

Kindler Priest came to repoussé while studying at the School of the Museum of Fine Arts, Boston, where courses in classical art included the study of anatomy. (She has subsequently taught at the MFA for over 20 years.) She credits this training with giving her an understanding of the importance of the underlying structure of natural forms. She spent a lengthy period focusing on casting, but after developing an allergy to wax, she turned

Bee Hive (ring), 2009
gold, quartz crystal, diamond
1 1/2 × 3/4"
Photo: Berlian Arts

Grasshopper in the Grass
(bracelet), 2017
gold, sapphires, silver
3 × 1 1/2 × 2 1/2"
Photo: Berlian Arts

narrative, be it humorous, poignant, or purely stylistic.

Louis the Lop
(two-part brooch), 2015
silver, sapphires,
composite stone, chrysocola
3 × 2 1/4 × 1/4"
Photo: Berlian Arts

Hare & There (brooches), 2014
silver, rhodonite
14 1/2 × 3 × 1/4"
Photo:
Berlian Arts

The colored stone work, so integral to these environments, led Kindler

to repoussé, the technique that became her métier. Although she initially worked in an abstract mode, she found that creating realistic relief images afforded her the opportunity to include gesture, texture, and emotion in small-scale sculptures, and that these images could become "environments" that invited interpretations by the viewer.

The colored stone work, so integral to these environments, led Kindler Priest to learn lapidary, and now she does all her own cutting. The reason is simple: "When I started buying stones, I found that many didn't fit my designs," she says. "I use color more as a painter would, to give intent and texture."[6] For a brooch featuring a crested Eurasian ibis,[7] Kindler Priest paired oxidized repoussé silver with the gleaming black mineral petersite, so as to complement the metallic black sheen of the bird's feathers. Colored sapphires were added for texture, a combination conceived to give the design "more energy." In one of her most effective uses of oxidized silver, she created a series of six leaping-hare, one-part brooches which read like an Eadweard Muybridge film strip: in each successive "frame" (i.e., brooch) the wiry, long-eared animal lopes across a terrain of pink-and-black rhodonite.[8] Kindler Priest admits she became obsessed with rendering the form and the emotion it embodied, but, she says, "I had to stop at some point."

To complete a single piece, Kindler Priest uses about 100 tools, most of which she has either made herself, adapted to suit her requirements, or had made to order.[9] She prefers 14 karat gold because "though it's harder to work than 18 karat," she says, "it has crispness to it that I like." This effect is apparent in the detail she achieves through chasing, especially noticeable when depicting feathers. She has sculpted many bird varieties, including an exquisite series of long-legged wading birds, which are particularly demanding, and can require 40 to 50 hours of work. Plaques are never polished; instead, the reliefs retain a soft, matte finish in which the play of shadow and light is achieved to an astonishing degree by means of barely perceptible stippling. Dimensional texturing of such subtlety is achieved only by the most accomplished repoussé—or even graphic—artists.

It is perhaps for this reason Kindler Priest's pieces are sometimes mistaken for ancient jewelry, as there is little or none comparable to her oeuvre in the contemporary jewelry world. However, a close study reveals skill and command of technique far exceeding that of her aesthetic forebears. While the ancient Etruscans often used granulation to texturize and enrich repoussé surfaces, Kindler Priest needs only a chasing hammer to coax unadorned inherent beauty out of gold and silver. Her peaceable kingdom offers a unique portal to . . . dare I say . . . where the wild things are.

Andrea DiNoto writes about art, craft, and design.

1 Her numerous awards for excellence include recognition at the 2017 ACC show in Baltimore; Crafts Boston, 2010; and the Smithsonian Craft show, 2008. / **2** The world's smallest monkey, the baby pygmy marmoset, also called a "thumb monkey," weighs no more than five nickels. A trendy pet selling for upwards of $4,000, the marmoset is heavily trafficked and as a species in decline has captured the attention of Linda Kindler Priest and environmentalists worldwide. / **3** Dürer's famous etching/engraving *Adam and Eve* is replete with finely executed animals—cat, mouse, rabbit, goat, and ox—peacefully coexisting in Eden. / **4** The brooch was included in the MFA's 2011 "Artful Adornments" exhibition and catalogue. In addition, Kindler Priest's work has been acquired by the Fuller Craft Museum and the Racine Art Museum. / **5** Ornament magazine, "Artist's Statement," Vol. 22, No. 4, 1999. / **6** For many years Kindler Priest built highly complex geometric sculpture based on the three-dimensional color system devised by the sculptor Morton C. Bradley, who died in 2004. In a 2008 essay, "Merged Symmetries: The Art and Life of Morton C. Bradley, Jr.," Rachel Huizinga notes Kindler Priest as "one of Bradley's primary fabricators and the person who most intimately understands his work."/ **7** The "punk rocker" of the bird world, says Kindler Priest. / **8** The exuberant elongated body of the hare was the basis as well for numerous bronzes by sculptor Barry Flanagan, who found inspiration in *The Leaping Hare* by George Ewart Evans and David Thomson (1972). / **9** Friend and fellow goldsmith Tom Herman has made Kindler Priest several special-order chasing hammers with bamboo for handles, which produces more spring.

Bottom:
Oil on Water (necklace), 2011
gold, chroite, silver
8 × 6 1/2 × 1/4"
Photo: Gordon Bernstein

Priest to learn lapidary, and now she does all her own cutting.

Crafted Visions: The Tension of Opposites

Patina Gallery,
Santa Fe, NM
7.21.17 – 8.20.17

by Ellen Berkovitch

Genevieve Howard. *Symphonic Fusion Neckpiece*, 2017. Japanese linen paper, fine silver, elastic cord. 11 × 11 × 4"

Paper that has been manipulated leaf by leaf yet resembles a volume carved into a geologic shelf. A cotton-wrapped sterling armature that emits filaments of crimson thread. Tiny squares of forged silver exerting the pull of gravity on a ribbon the wind might carry away. These are some of the precise and poetic opposites in material tension found in "Crafted Visions: The Tension of Opposites."

If, typically speaking, an "ergonomics of jewelry" would suggest conditions at the bench specific to *making* jewelry, "Crafted Visions" proposes an ergonomics of *wearing*, too. Co-curated by Silicon Valley executive and jewelry maker Ivy Ross and Patina Gallery co-owner Allison Barnett, the exhibition interrogates jewelry design as a co-function of creator-mind and user-body. Can a wearable object be as light physically as it is conceptually weighty? If a wearer dons a specific object to sport a layer of identity, can the object itself stand apart inside its own intrinsic contradictions?

A syncretic cultural event in the gallery's home city of Santa Fe—the world premiere at Santa Fe Opera in July 2017 of "The (R)evolution of Steve Jobs," created by composer Mason Bates—gave rise to this exhibit, which weaves the crafters of new materials and forms of making into the concerns of masters of metals fabrication.

Up to 3,000 individually fabricated shapes of paper compose a Genevieve Howard necklace, which in aggregate resembles a cliff edge that has begun to erode. Howard begins by hand-drawing graphical shapes; in the case of this exhibit, they are inspired from a close musical reading of Bates's opera score. Howard then subsumes her hand designs into re-interpretation by a CAD program. Materially, the black linen of the paper evokes both scorch and polish yet settles on neither, defying binaries.

Apple founder Steve Jobs could communicate no higher compliment than to call a design "pure." His brief foray with college concentrated on classes in Asian calligraphy, which imparted his lifelong passion for the circle.

Avoiding superfluousness is definitely a trend in the

Claude Chavent, *A-bis-6-hexa*, 2017. steel, isometric illusion. diameter 2 1/2"

work of the five of the thirteen artists, who employed laser-cutting or 3D printing on materials including paper, wood, nylon, and felt. Maria Eife's felt *emoticons for a kiss/wink/smile* construct new conversation pieces, a form of flying one's own avatar around one's neck. "Nervous System," the idea-products of design team Jessica Rosenkrantz and Jesse Louis-Rosenberg, are 3D–printed nylon forms that simulate natural growth, yet intervene inside of nature's urge to repetition to constellate necklaces and bracelets that ping technically and musically.

Myung Urso's paper necklace is at once surgical and zen, combining inked hanji paper with an arc form of sterling silver wrapped as tightly as a gauze bandage. In contrast, Doerthe Fuchs's *Classic Square Ribbon Necklace,* which can be worn as a single strand or doubled across the body, updates military hardware by choreographing the body into the wearing. Architectural volumes redouble in Naomi McIntosh's walnut necklaces, whose component parts the laser machine has singed black at the edges.

Metals bespeak the exhibition's hard turn into mathematics and the dance between smooth Euclidean surfaces and fractal geometries. Sandra Enterline's forms are spiny, crustacean, webbed like computer networks. One of the most interesting works in the show is the flat black iron brooch that is Claude Chavent's *A-bis-6-hexa.* Erich Zimmerman folds metal sheet into pod shapes that are as evocative of seeds of thought as the shape suggests. Boris Bally's playful recycled traffic signs turned into collars take this exhibition from vitrine to runway—but is it jewelry or textile?

In writing about the movie *Toy Story,* produced by his company Pixar Studios, Steve Jobs observed that toys have "an existential fear" of being upstaged and discarded by newer toys. Jobs would always go deep into envisioning design permanence, even when conjuring up animated objects doomed to obsolescence by wayfaring human beings. That jewelry makers have started thinking and acting along these lines, as this informed exhibit demonstrates, makes the field of the new a source of not only experiment but wonder and fun.

Ellen Berkovitch writes on art and design and was most recently news director of Santa Fe Public Radio.

The Silver Caesars: A Renaissance Mystery

The Metropolitan Museum of Art, New York, NY
10.12.17 – 3.11.18

Waddesdon Manor, Buckinghamshire, UK
4.18.18 – 7.22.18

by Katrina London

Among the greatest survivors of Renaissance metalwork, twelve 16th-century silver-gilt *tazze,* or standing cups, have been brought together for the first time in more than 150 years at the Metropolitan Museum of Art. Displayed in a dramatic procession of individually lit vitrines, each monumental *tazza* features a Roman emperor cast in silver. Each is supported by a dish meticulously worked in low relief with four episodes from his life based on *The Lives of the Twelve Caesars* by the historian Suetonius (c. 69–130 AD). Collectively known as the Aldobrandini Tazze because they were once owned by Cardinal Pietro Aldobrandini (1571–1621), these objects ensnare the mind as greatly

Netherlandish?, *The Augustus figure and Domition dish from the Aldobrandini Tazze,* ca. 1587–99. gilded silver. height 15 1/2"
Collection Minneapolis Institute of Art

Netherlandish?, *Titus visiting Egypt* (detail from *Titus dish from the Aldobrandini Tazze*), ca. 1587–99. gilded silver. Collection Museu Nacional de Arte Antiga, Lisbon

as they seduce the eye, since there is no surviving documentation proving exactly when, why, for whom, and by whom they were made (hence the exhibition's title).

Each *tazza* stands over one foot tall and is comprised of several parts that can easily be disassembled, as shown by a diagram on one of the wall panels. When the complete set was on the art market in the mid-19th century, each piece was taken apart and gilded, and six of the feet were replaced. Prior to arriving at the Met, eight of the emperors had been paired erroneously with the wrong historiated dish. This exhibition presents a once-in-a-lifetime opportunity to view the set in its original configuration, before its constituents revert back to their mismatched states and are returned to their owners.

Each of the Twelve Caesars and the forty-eight narrative scenes on the *tazze* can be viewed from all sides and interpreted through provided text from Suetonius. The painstakingly chased figures, animals, architectural features, and other elements depicted on these pieces by a team of anonymous silversmiths both demand and reward close scrutiny, although the sheer amount of detail may be overwhelming initially. It is nearly impossible not to be impressed by the technical and artistic virtuosity of these magnificent table ornaments, which are in keeping with the Renaissance tradition of commissioning precious silver objects as commemorative gifts meant for ceremonial use and display, rather than for serving food. Patient viewers will observe evidence of their manufacture in areas where the tiny prick marks that were used to trace the designs from paper to the metal are still visible. In many of these designs, 16th-century costumes and architecture are discernable, reminders that these are visions of ancient Rome filtered through Renaissance eyes.

A large wall projection continuously plays two films providing enlarged, high-resolution views of the Nero and Vitellius *tazze,* and explains how the quadripartite composition of the dishes serves to separate the illustrations of different passages by Suetonius. Lining the walls behind the Twelve Caesars are displays of contextual objects, including Renaissance engravings and coins that served as inspiration and models for the imagery on the *tazze,* and examples of other Renaissance metalwork that show similarities with the set, such as a remarkable 16th-century Flemish basin on loan from the Louvre.

Exhibition curator Julia Siemon convincingly hypothesizes that the Twelve Caesars were made in the Southern Netherlands for a member of the Hapsburg dynasty in the 1590s. As the ruling family of the Holy Roman Empire, the Hapsburgs often traced their lineage back to the Roman emperors as a way to bolster and legitimize their power. The richly illustrated accompanying publication expounds deeply on this theory, featuring essays presenting new research by several scholars on various aspects of the set, including a technical analysis by Met conservators.

Yet, it is difficult to imagine the Twelve Caesars in their original setting, a problem that could have been easily remedied by displaying 16th-century images of lavish banquets, interiors, and triumphal processions, many of which are illustrated in the publication. Nevertheless, there is more than enough in this exhibition to intrigue and delight visitors. Ultimately, the creators of the *tazze* succeeded in transforming what could have been frivolous decorative tableware into such impressive monuments of sovereignty, wealth, and knowledge that they have continued to be revered for more than 400 years. Perhaps power, like revenge, is "a dish best served cold."

Katrina London is a decorative arts scholar based in New York.

Doris Betz: A Fine Line

Gallery Loupe,
Montclair, NJ
9.16.17 – 10.14.17

by Jennifer-Navva Milliken

Drawing, one of the most immediate forms of artistic expression, was extolled by Immanuel Kant in the 1700s as the foundation of form. Drawing was valued as evidence of creative thinking, yet it was not until the 20th century that drawings would be considered works of art in their own right, rather than documentations of planning and strategy. Breaking conventions of form, process, and content, artists in the modern age have explored the potential of gesture and agency offered by the line.

Doris Betz has built a practice on following the line. Her work is a celebration of *homo ludens*, and spontaneity, chance, and play lie at the center of her occupation. Following 20th-century Dutch cultural theorist Johan Huizinga's dictum that "where there is play, there is also meaning," she eschews premeditated forms and relies upon extemporaneous drawing methods. She creates calligraphic compositions that are translated into three-dimensional, wearable objects through wire coiling and knitting, pressing and crimping, oxidizing, or lacquering.

"A Fine Line" is Betz's first solo exhibition of work at Gallery Loupe. Betz lives and works in Munich, Germany, and studied jewelry and metalsmithing at the Akademie der Bildenden Künste under Otto Künzli and Hermann Jünger. Coming of age in this ecosystem, populated by contemporary jewelry movers and shakers, landed her a front-row seat to conversations in the field. Betz also worked as a studio assistant to Künzli, whose influence might be observed in the graphic nature of her forms, or her commitment to a forthright expression of ideas.

Doris Betz, *Wide Wide Open,* 2011. silver, lacquer. 3 3/8 × 4 3/4 × 1 1/8"

The exhibition offers the first opportunity to view Betz's ink-on-paper drawings alongside a well-rounded selection of jewelry pieces. Works dating back as far as 2011 provide reference to newer applications of processes, such as the flattening of "drawn" shapes through a press, and lacquers that give their surfaces an iridescent sheen that shifts with movement.

The most recent works in "A Fine Line" are also the most articulate iterations of the themes of spontaneity and line. Eight neckpieces, all named after Italian cities, appear as if they have been rendered by a bold brush. Hanging on the body, they feature proportions that accentuate the buoyancy of the knitted wire; in some cases, the continuous trajectory of the lines is disrupted by crimps and bends.

Four drawings from 2016 serve to bridge and enclose the entirety of works on view. The drawings, which are gestural and energetic, are pleasing to look at and relate to the metal objects as a kind of mission statement. Showing them with the jewelry pieces encourages a deeper understanding of the artist's conceptual process. But though the jewelry objects stand on their own, it is less clear that the drawings can be viewed independently of the jewels.

Betz's fascination with nature is represented in a couple of lacquered brooches from 2011, as well as rings that take the form of blossoms, and new sets of earrings that resemble line drawings of seed pods. The exploration of chance and control, reflected in nature's dual character of chaos and order—the scattering of seeds, or the behavior of materials when subjected to the laws of physics—is spiritedly conducted.

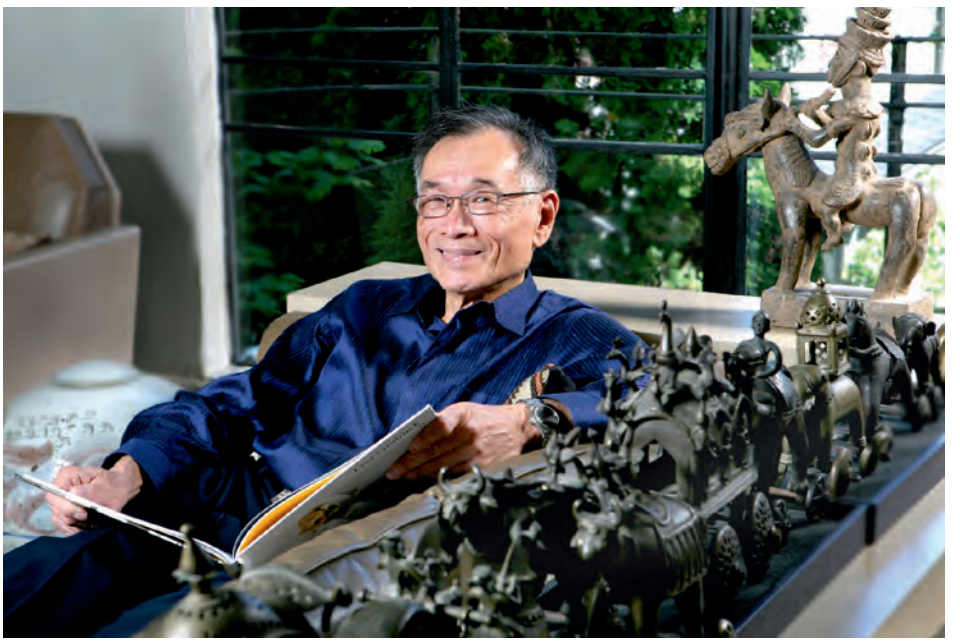
Above all, Betz's emphasis is on the integrity of that spontaneous, unpredictable, looping line. And yet, a bit of rigid discipline creeps into the works, seen in the tight resolutions of shapes, repeating motifs, or the overall practical nature of these pieces. One seeks something slightly more quixotic in this pursuit. The drawings, on the other hand, created blindly without the expurgatory guidance of the mind's eye, provide a proof of concept for the artist and her process. Their speculative voice provides a foil to the artist's careful hand and her demands upon the metal, and speaks to the play between chance and constraint.

Jennifer-Navva Milliken is a curator and writer based in New York and Tel Aviv.

Doris Betz, *Venezia* (neckpiece), 2017. silver, patina. height 11 3/4"

RON HO (1936–2017)

BY KIFF SLEMMONS



The late jeweler Ron Ho in his home, 2016.

When I first met Ron, nearly 40 years ago, I had not encountered such grandeur before in the house of an artist. The visual impact was stunning; it was almost too much. But now I think of Mae West's famous deadpan line: "Too much of a good thing . . . can be wonderful." And so it was with Ron.

I would like to honor Ron's place in the jewelry world, as an artist, teacher, traveler. Ron's work is recognized in many museum exhibitions and collections, and has elevated the position that jewelry now occupies in the context of Art. Laurie Hall, a longtime friend, fellow artist, and teacher, began her own tribute to him by saying: "Ron lived every minute of his life to its fullest. The lights were always on in his world." I agree; this is a perfect synopsis. Of Ramona Solberg, their teacher, she said: "Ramona was at the stern . . . she guided us all." That extended to me as well, as I became a part of their network.

In the jewelry world, we were out on the edge, both physically in this Northwest corner of the U.S., and often in the spirit of our work. There was a common energy of approach to our takes on the found object, the narrative, the decorative. It was a symbiotic relationship, as we developed our own identities.

Ethnic jewelry remained a shared influence and muse that we continued to honor and celebrate throughout our working lives. Ron believed it was important to wear the jewelry that he collected in his travels; in this way, Ron was his own museum. He was always putting himself together in dramatic and extravagant ways, perhaps contrary to the Northwest sense of restraint and low-key palette. Ron wore his pride in his work and in the work from other cultures he admired. He served as a cultural activist, building community and expanding the knowledge of jewelry, its function in other cultures and in ours, the importance of tradition, of celebration, of ritual to the health of a community.

I agree with Marcel Duchamp: there is the maker, what is made, and the viewer. Art isn't art until all three are present. Ron was forever activating this connection through jewelry, by wearing it, by teaching it, by observing it. So often jewelry is described in formal terms: composition, design, value of materials. Ron's designs were dynamic and vital, yet also calm with an enlivened serenity.

Helen Drutt, an advocate and collector of contemporary jewelry, called Ron not long ago, updating him on recent responses to his work. She said that his contributions went beyond the work itself—that the impact of his work was sustained beyond its immediate physical presence. The moment was important for Ron, to experience this tribute directly.

In addition to its formal impact, jewelry's importance, its significance, became the celebration of life itself, and in particular for Ron an honor to his Chinese heritage. Nadine Kariya, a fine jeweler and friend, described his work this way: "[Ho's] work has always dealt with Asian art, inviting the viewer to participate in and savor the world he presents. The

structure of his necklaces is supremely architectonic, for Ron constructed silver building facades, many different Chinese chairs, forceful animals and fabulous journeys, all so unique and intimate, yet boldly stated, handsomely balanced and elegant of line. The lyrical poetry of his work is equal to its superbly crafted beauty—he embraces his art, he embraces us." Yes, Nadine. He embraces us. So true.

The radius of Ron's circle of friends was wide. He had a way of celebrating people's accomplishments, particularly in art, of affirming their place in the world. After his retirement, his teaching continued through travel, and he educated us in the craft of other cultures: how craft functions to communicate ideas of ingenuity and skill, the rich use of materials at hand, the capacities of the imagination. What wearing beauty can do to enrich the day, the month, the year. How jewelry can connect us to others.

Gary Griffin, the former head of the Metals Department at Cranbrook, travelled with Ron to Vietnam and to India. He sent this tribute: "A stone Ganesha, the Hindu god of wisdom, sits in a corner of Ron's kitchen. Aside from its religious meaning is its craft, the rendering of its figure, its kind face, and its embracing arms. It is the craft, the beauty found in making, that invites a viewer to spend time in its presence. 'You can get one in India,' Ron remarked, keenly aware of this viewer's desire. Of course, he meant you must make the journey, feel the context, and seize the moment of recognition."

Gary went on to say: "Ron could not live in any place on the planet that did not have a Chinatown. He said it in India. He said it in Vietnam. He said it Cambodia. So many of the things Ron said were rhetorical. In this case, his remark caused one to think of their own priorities related to people and place. Artists liked traveling with Ron because he was a maker. He was a brother in practice. He was a brother in observation."

I came to see Ron only a few weeks before his death. It was an important reunion for both of us and I am deeply grateful for our time together, for the reaffirmation of our friendship. We were kindred spirits in so many ways. Over several days we told stories, exchanged ideas about jewelry at this moment in our lives . . . what matters. Ron was especially strong in expressing what the care and love of his partner, the potter Peter Olsen, had meant to him. It was Peter who made Ron's departure as fine and elegant as the life he lived, surrounded by beauty in all details, in the company of friends. Ron was fortified by all these provisions. Once again, there was a kind of grandeur to this parting, and a deepened understanding of what the feast of devotion can provide.

Ron gave us his attention and expected ours. I played for Ron several recordings on my phone that I thought he might enjoy, including one of my young friend Julian's recent piano recital. He listened so intently, was so there for the music, absorbed completely. That focus was at the core of Ron and what I loved most.

It is through his work that I knew Ron best, and as the years have passed, my admiration and respect has deepened. I have come to appreciate his contributions to the rich cultural history of jewelry, of Seattle and beyond.

In much of today's world we have lost the importance of ritual, the value of renewal and remembrance, the necessity of celebration, a sense of belonging to a community larger than ourselves. Ron created a community with jewelry at its base. He was an advocate for the beauty of ritual: beauty in the grand scheme, and in the details of daily activity. We are the beneficiaries of his passions and the intensity of his caring.

Kiff Slemmons is a metalsmith based in Chicago.

Ron Ho
YU, 2016
jade artifacts, gold, sterling silver, (ceramic base)
pendant 5 × 5"

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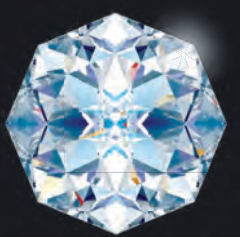

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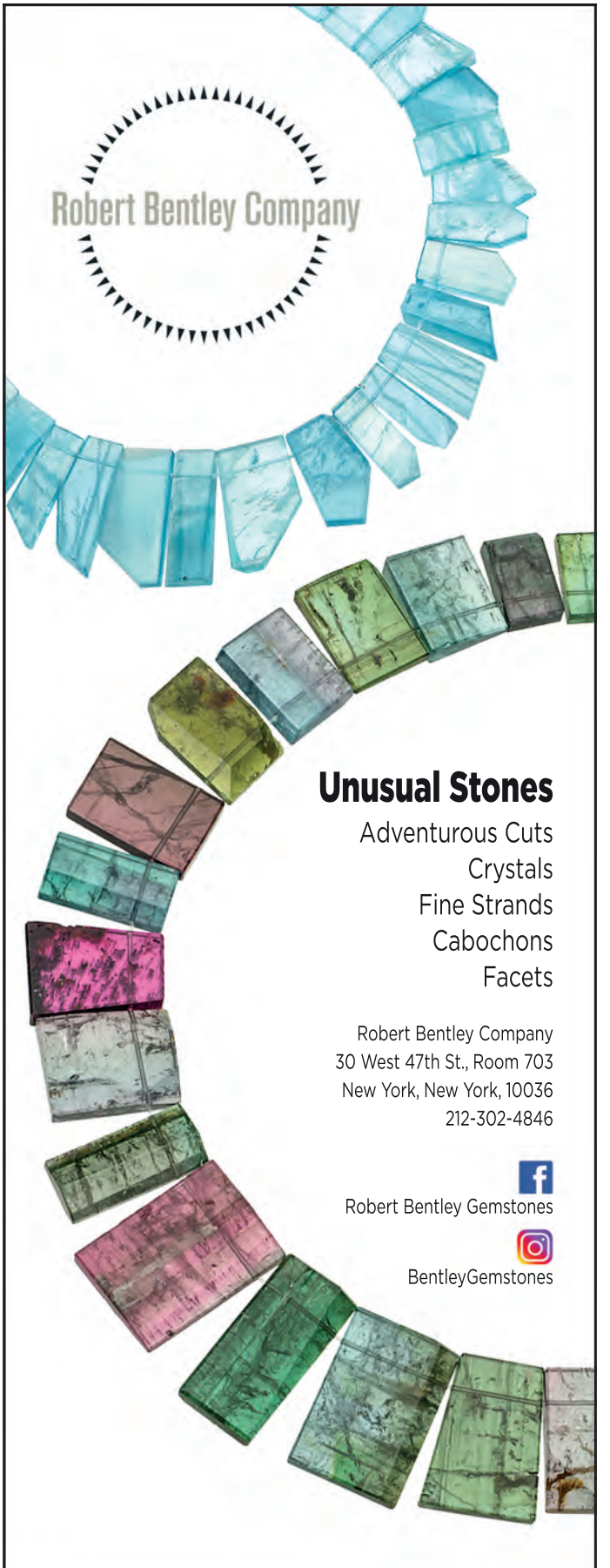

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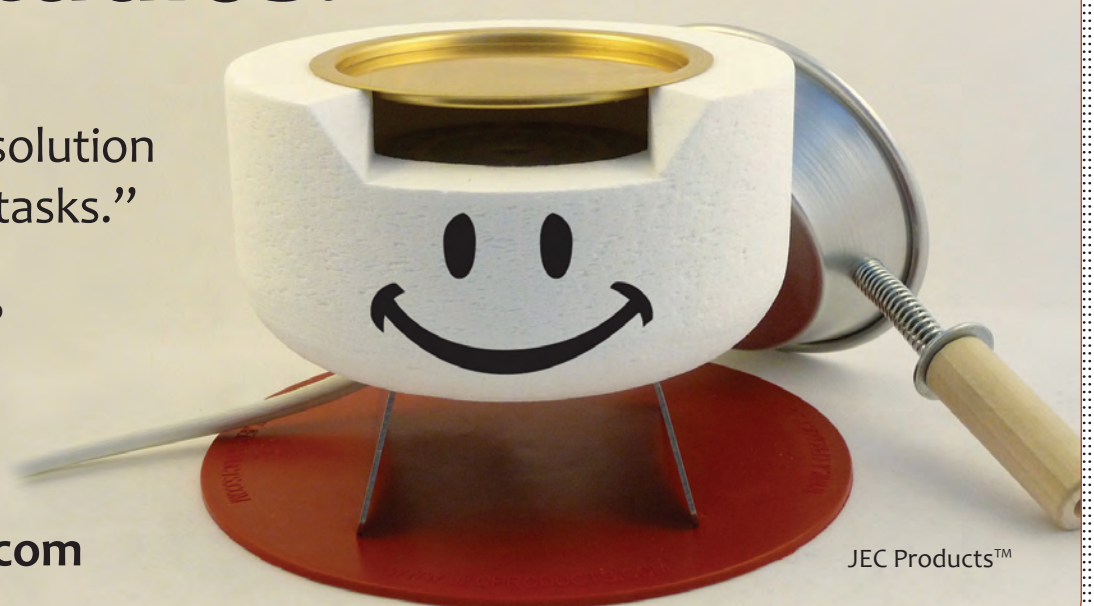

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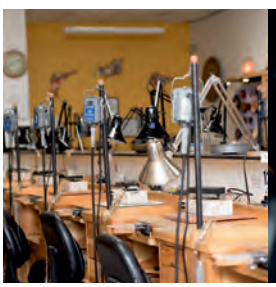

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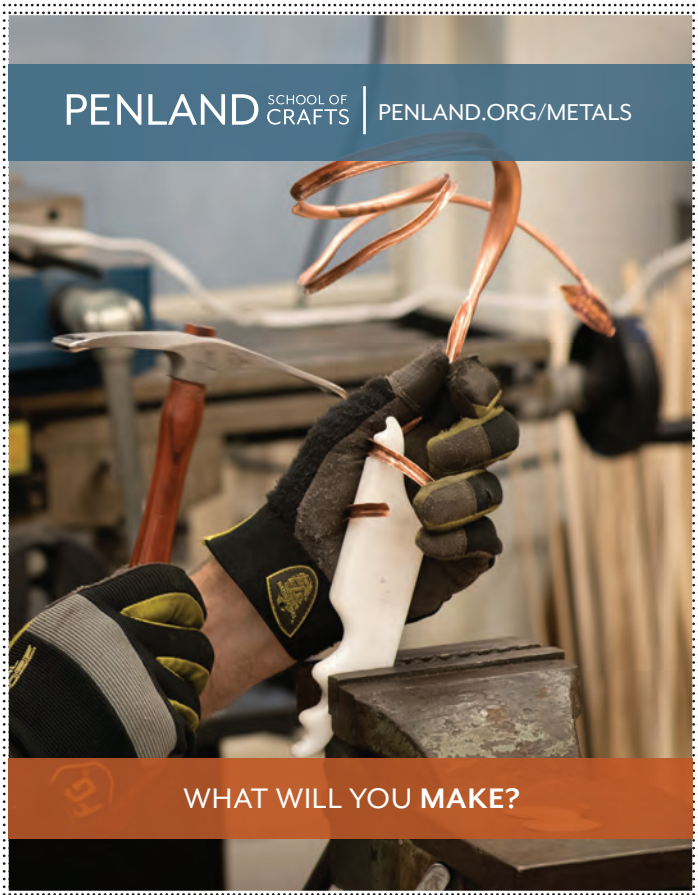

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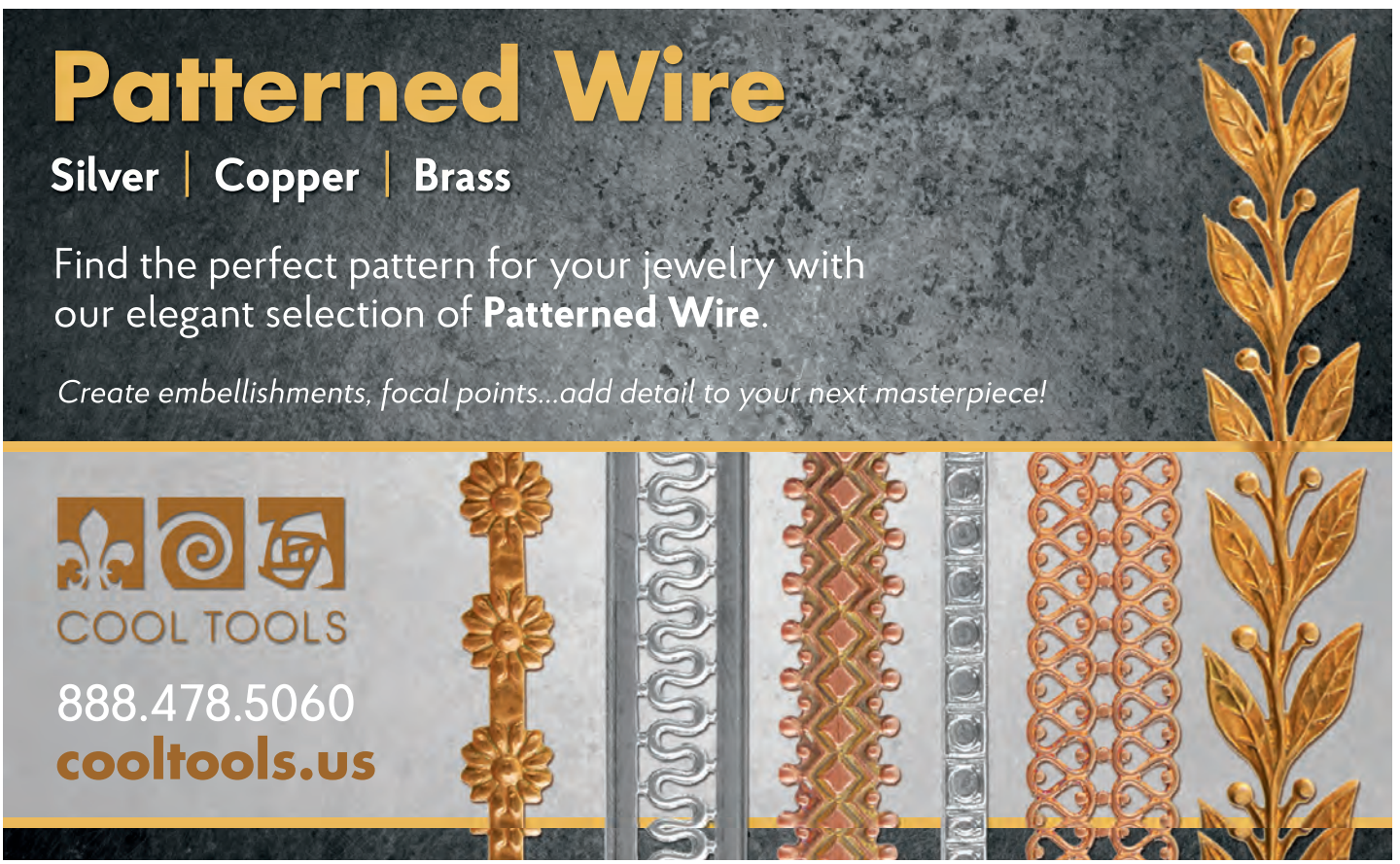
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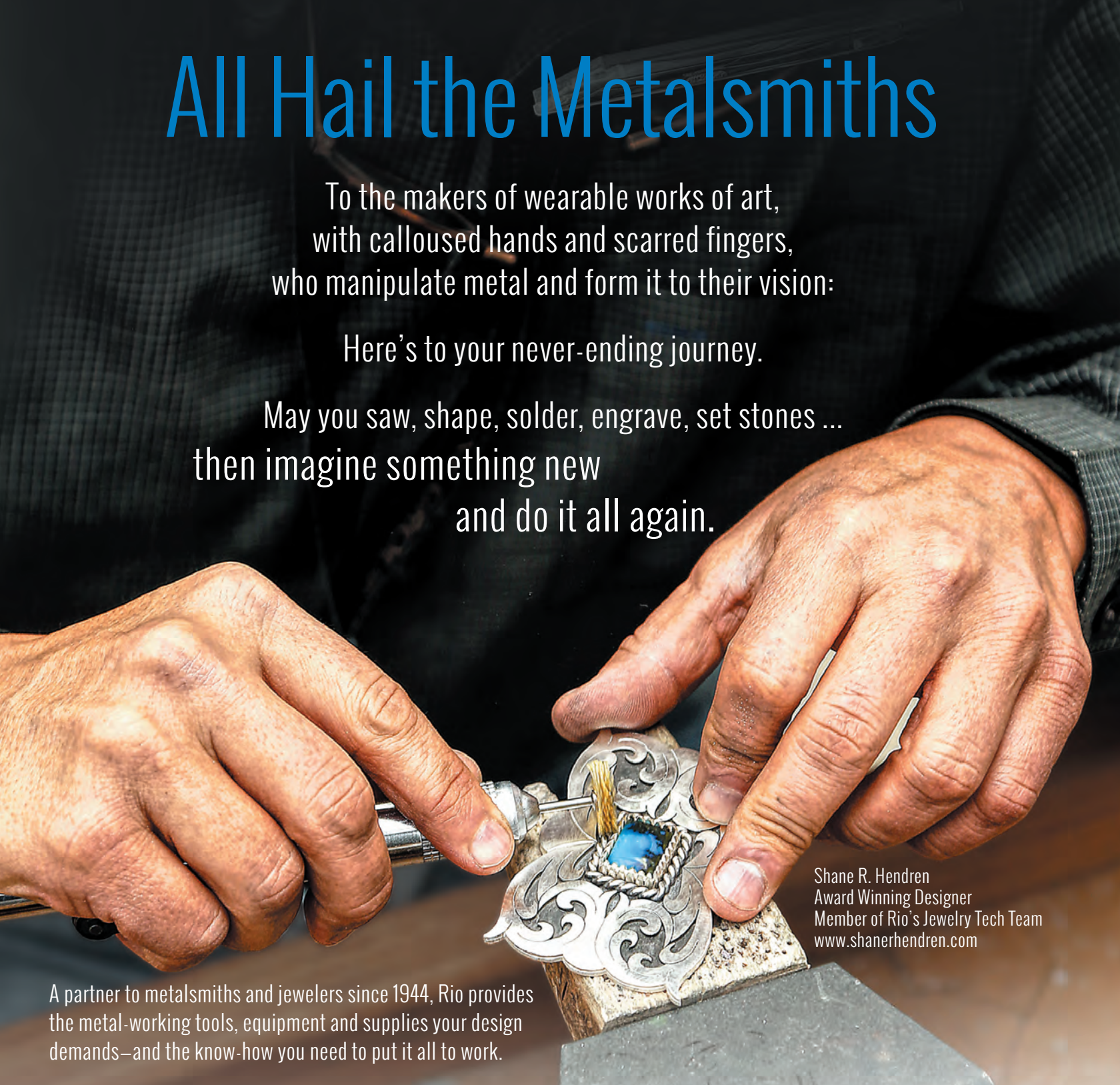

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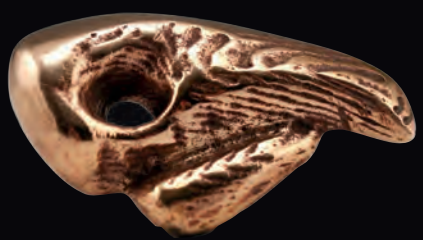

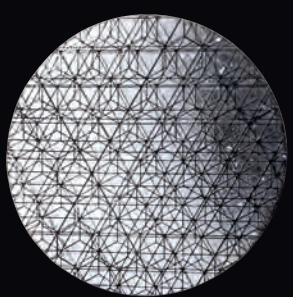

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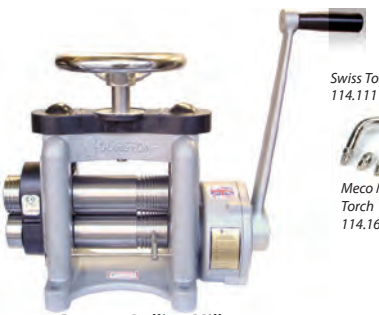

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• Top: A student cast using cuttlebone (see pg. 24)
• Bottom: **Bryan Parnham,** *New Structure Brooch,* 2017 (see p.32)

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Welcome to the first issue of *Metalsmith Tech,* a new biannual publication from SNAG that aims to be a resource for everyone interested in making a life in jewelry and metals. The editorial content will take on the notion of "how-to" in a functional sense, investigating tools and techniques in the field. But the lively conversation in these pages will also explore the how-tos of building your life as an artist, whether that's finding opportunities for personal inspiration and reflection, providing information on grants and fellowships, developing a sustainable career, or growing your teaching practice.

Metalsmith Tech No. 1 speaks to this breadth. In our first *Studio Views*, a feature that discusses best practices for studio set-up, Dianne deBeixedon offers a warm, personal, and practical take on how to build a functional working space from scratch—on any budget. In *Tech Toolkit*, Gabriel Craig's intimate narrative about the one tool he couldn't work without details how it has impacted his artistic and professional life. Tanya Crane and Jim Bové's pieces both reflect on teaching, but in different ways. Crane discusses the benefits of being an educator in an interdisciplinary university program, while Bové offers a detailed step-by-step process for cuttlefish bone casting with younger students. *Tech Talk* finds Ben Dory taking a deep dive into electrolytic etching, with illustrations and examples of contemporary artists using the technique to manifest their artistic vision. Columns like *Opportunity Knocks* and *Cross Currents* dive into resources both at the center and on the perimeter of the metals and jewelry field. Each author offers sage and compelling food for thought, whether you're contemplating creating a business plan or tired of relying on the "exposure economy."

Future issues of *Metalsmith Tech* will take on these kinds of topics and more. Whether you're a full-time artist or metalsmith, educator, student, or avid enthusiast, I hope you enjoy and find something valuable in this first outing. I look forward to hearing more about what you'd like to see covered and to learning alongside you. ***—Emily Zilber, Editor***

The mission of *Metalsmith Tech* is to focus on techniques, processes, educational philosophies and ideas, professional development topics, and new technology in the field of jewelry and metalsmithing. The magazine will include both contemporary and historical references, highlighting a diverse range of approaches to jewelry design and metalwork, including professional practices, creative influences, and new trends.

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SNAG's Keynote Speaker, Vivian Beer, is a furniture designer/maker based in New England. Her sleek, abstracted metal and concrete furniture combines the aesthetic sensibilities of contemporary design, craft, and sculpture to create objects that alter viewers' expectations of and interface with the domestic landscape. With a strong foundation in contemporary furniture design, her research into the history of American industry, architecture, and transportation adds intellectual rigor and specificity to her work.

Vivian holds an MFA from Cranbrook Academy and received their 2016 Alumni Achievement Award. Beer has won numerous awards and residencies including the Ellen DeGeneres Design Challenge, John D. Mineck Furniture Fellowship, Penland School of Crafts Residency, multiple Windgate Artist Residencies, Museum of Glass, Pilchuck, a Research Fellowship at the Smithsonian National Air and Space Museum, and was recently named a 2016 United States Artist Fellow.

For a full line-up of speakers and conference events, please visit the conference webpage: snagmetalsmith.org/conferences/made/

PRE-CONFERENCE WORKSHOPS:

SNAG is excited to offer pre-conference workshops this year at the Marriott Hotel Wednesday, May 23. Each workshop is geared toward helping you develop your professional practices. Off-site workshops are also being offered through the Oregon College of Art and Craft and the Form 3-D Foundry. Even if you've already registered for the conference, you can add-on these workshops now.

For a complete line-up, please visit snagmetalsmith.org

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Kristen Baird, *Boulder Necklace*, 2017. Baird was selected as the 2017 Halstead Grant winner.

OPPORTUNITY KNOCKS

Win Win: The Halstead Grant

The Halstead Grant can help you take your jewelry business—and design—to the next level.

BY KATIE HACKER

The Halstead Grant is the only award in the jewelry industry that rewards design excellence *and* business acumen among emerging designers. Now in its thirteenth year, the annual prize, sponsored by the family-run jewelry supplier Halstead Bead, Inc., based in Prescott, Arizona, offers invaluable feedback on an artist's work and the future potential of their business—as well as $7,500 cash and $1,000 in supplies. The top ten finalists receive prizes and feedback from a judging committee, which in 2018 includes artist Michael David Sturlin. Halstead President Hilary Halstead Scott says, "The health of the jewelry industry depends on the continuous flow of new talent and design creativity. It is critical that new artists also hone their business skills in order to effectively manage their small businesses in today's global market."

In addition to submitting photographs of their work, applicants must answer a variety of questions that form the basis of a business plan, culled from Halstead's forty-four years in the jewelry business and what the company has identified as important markers of an artist's success. Most emerging jewelers have never written this kind of document, nor have they had access to in-depth business training as a part of their undergraduate or graduate education. The application breaks it down into bite-size pieces, providing a useful model for any artist looking to understand the ins and outs of a business plan. Emily Shaffer, a finalist in 2017, extols, "Filling out my grant application was one of the most challenging yet fulfilling tasks I've had in the early stages of my business."

"I spent about one month of almost full-time work on the application, including research, photoshoots, updating my website, answering the questions, and formatting the physical application," says 2017 finalist Madeline Michael. "I would suggest starting early and spreading the work out over a longer period of time." Michael advises her peers "to at least download the application and review the questions. Even if they don't end up submitting the application, they will know where to focus their attention and what information is important to consider." The 2017 winner, Kristen Baird, notes that the application "taught me about branding in a way I had never thought about it before. Every detail, from the language I used to answer the questions, to the layout of my images,

to the collateral I presented had to be 'on brand.' For me, it was a challenge to determine my 'brand voice,' and it took a lot of time, but it has helped me tremendously as I continue to grow and expand my business."

A panel of judges reviews each application, scoring based on presentation, business plan, jewelry design, and overall potential. After several group conversations, in which the judges discuss the applications, the resulting comments are compiled for feedback reports. Most winners and finalists say the report is one of the most meaningful parts of the prize package. Baird regularly refers back to what the judging committee, which included jewelry gallerist, writer, and editor Marthe Le Van, recommended for her business. She emphasizes, "The points they made after reading my entire application—and I hear they are just as thorough in reading and discussing as the applicants are in preparing and presenting—are relevant, and happen to be things I needed to hear and act upon. It is one thing to get advice from friends, and trust me, everyone has something to say whether asked or not, but it is another thing to get specific feedback from a group of industry experts. That report is gold!" Alexandra Lozier, a finalist in 2017, says, "In addition to creating a solid business plan for the next few years, the feedback report gave me insight on new ideas to pursue, as well as validation of what already works."

For the Halstead family and the prize jury, one of the most exciting parts of the grant cycle is getting to know the winner and finalists, and championing their work. As 2016 guest judge Cathleen McCarthy, jewelry and arts writer and editor of the website *The Jewelry Loupe,* says, "The Halstead Grant is not just about funding a successful jewelry business. It's also about promoting the career of a designer." After the winner is determined, he or she is invited to the Halstead headquarters, which features an on-site teaching studio and lecture space, and is provided the opportunity to film a promotional video—a first for many jewelers. The winner and finalists are included in the Halstead catalog and in the annual Halstead Grant publication, *Reveal.*

For those considering submitting an application, Shaffer exhorts, "Do it. Even if you don't place in the top ten or submit the application on time. The process allows you to reflect on your present business and what you must to do make it a successful brand in the future. It's like a business plan template!"

Katie Hacker is the content strategist for Halstead Bead, Inc.

To download an application, learn more about the grant, and get a list of helpful tips for a successful application, visit grant.halsteadbead.com. The 2018 deadline is August 1.

Works by finalists for the 2017 Halstead Grant:

1
Kelsey Grape

2
Emily Shaffer Studio

3
Stacy Rodgers

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CROSS CURRENTS

W.A.G.E. Hike

Working Artists in the Greater Economy (W.A.G.E.) helps artists advocate for fair payment, not just "exposure."

BY LUKE T. BAKER

"We can't pay you, but it will be great exposure." It's a refrain undoubtedly familiar to artists who've been asked to participate in an exhibition, give a talk, or write a catalogue essay for certain nonprofit organizations, or even some commercial galleries. Those who actually *do* receive compensation for their labor and time often find that fees can vary widely, making it difficult to determine what constitutes fair payment. Providing free (or nominally compensated) work has become normalized as a "labor of love" that seems necessary for the advancement of one's artistic career—even when American jewelers and precious stone and metal workers are barely eking out a living.

With businesses to run, families to feed, and MFA degrees to pay off, what can jewelers and metalsmiths do to unseat this expectation to work for free? The problem of exploitative labor practices is certainly not unique to this industry, but one artist-run organization offers a compelling art-world model for taking offenders to task. W.A.G.E. (Working Artists in the Greater Economy) was founded in New York in 2008 by a group of visual and performing artists and curators to address the economically unjust relationship between arts institutions and the artists whose labor they contract; in 2011, it became certified as a 501c3 non-profit organization. Its primary *cri de coeur* is the remuneration of artist fees—and not just "exposure"—in exchange for participation in exhibitions and creating other types of commissioned content. The "exposure economy," W.A.G.E. argues, forces artists to become speculators, producing work for free (often at their own significant expense), while gallerists, dealers, and museum professionals are guaranteed a living wage.

In its "womanifesto," W.A.G.E.'s feminist founders express a mission to "draw attention to economic inequalities that exist in the arts" resulting from "the organized irresponsibility of the art market and its supporting institutions"; specifically, "the refusal to pay fees for the work we're asked to provide: preparation, installation, presentation, consultation, exhibition and reproduction." The W.A.G.E. manifesto calls out a system that positions "the artist as a speculator," and serves as a call to arms, demanding "the remuneration of cultural value in capital value."

In 2014 W.A.G.E. developed a multi-tiered "artist's fee calculator," which establishes an industry-wide minimum "Floor W.A.G.E." for fourteen common types of unpaid creative labor. These rates scale based on a fixed percentage of an institution's total annual operating budget, and eliminate disparities in payment driven by gender, medium, and project budgets. In 2014, the group also launched its W.A.G.E. Certification program, to recognize U.S. arts organizations that have voluntarily agreed to pay artist fees at or above Floor W.A.G.E. minimums; at present, fifty-two organizations comply. Future planned initiatives include WAGENCY, a coalition that works with artists to negotiate payment according to W.A.G.E. standards, as well as an artist's transfer and sale agreement that ensures financial compensation for artists when their work changes hands on the secondary market.

According to survey data released in 2016 by the U.S. Bureau of Labor Statistics, jewelers and precious stone and metal workers earned a median annual wage of $38,200, with the lowest ten percent of respondents making less than $22,060 per year.

In a 2010 W.A.G.E. survey on payment practices, 58.4% of the nearly 600 responding artists who exhibited at NYC-area non-profit institutions from 2005-2010 indicated they received no form of compensation for their participation or expenses.

While W.A.G.E. was established and continues to run primarily as an advocacy group for visual artists, several craft-centric organizations have found W.A.G.E. Certification a useful tool in ensuring the fair payment of their exhibiting artists and other constituents. The Weavers Guild of Minnesota, one of the country's oldest and largest groups dedicated to advancing and preserving the arts of weaving, spinning, and dyeing, became W.A.G.E.-certified in 2017. The working artists who teach its classes, give lectures, write articles, and run workshops are paid according to W.A.G.E.'s guidelines, and the guild negotiates W.A.G.E. fees for its members who exhibit work at external venues. "As an organization with a long history and leadership role in the weaving community, the Weavers Guild of Minnesota felt it was important to set the standard that paying artists is important in all sectors of the arts," Executive Director Beth Bowman asserts. "Many of our constituents are essentially small business owners making and selling their works just like visual artists, and deserve similar compensation for their time and talent." Chicago's Threewalls Gallery, founded in 2003 by contemporary crafts curator Shannon Stratton (now William and Mildred Lasdon Chief Curator at the Museum of Arts and Design), became W.A.G.E.-certified in 2015. "I don't see a reason to draw differences between an artist making paintings or an artist making videos or an artist making jewelry," Stratton notes. "If they are exhibiting in a non-for-profit, museum, etc., it's up to those venues to establish a fee schedule for exhibiting artists of any discipline, and it should be the same for all exhibitors."

Artist Lise Soskolne, an organizer within W.A.G.E. since its founding and its core organizer since 2012, finds that smaller exhibition spaces have more readily gotten on board with the group's mission, in part because they remain "more connected to their roots and to the reasons they actually formed in the first place, which is usually to support other artists." Even though Floor W.A.G.E. fees for institutions with annual operating budgets under $500,000 are relatively affordable, committing to W.A.G.E. Certification can require budget restructures and appeals to funders. "The fee calculator and the certification guidelines actually provide an opportunity

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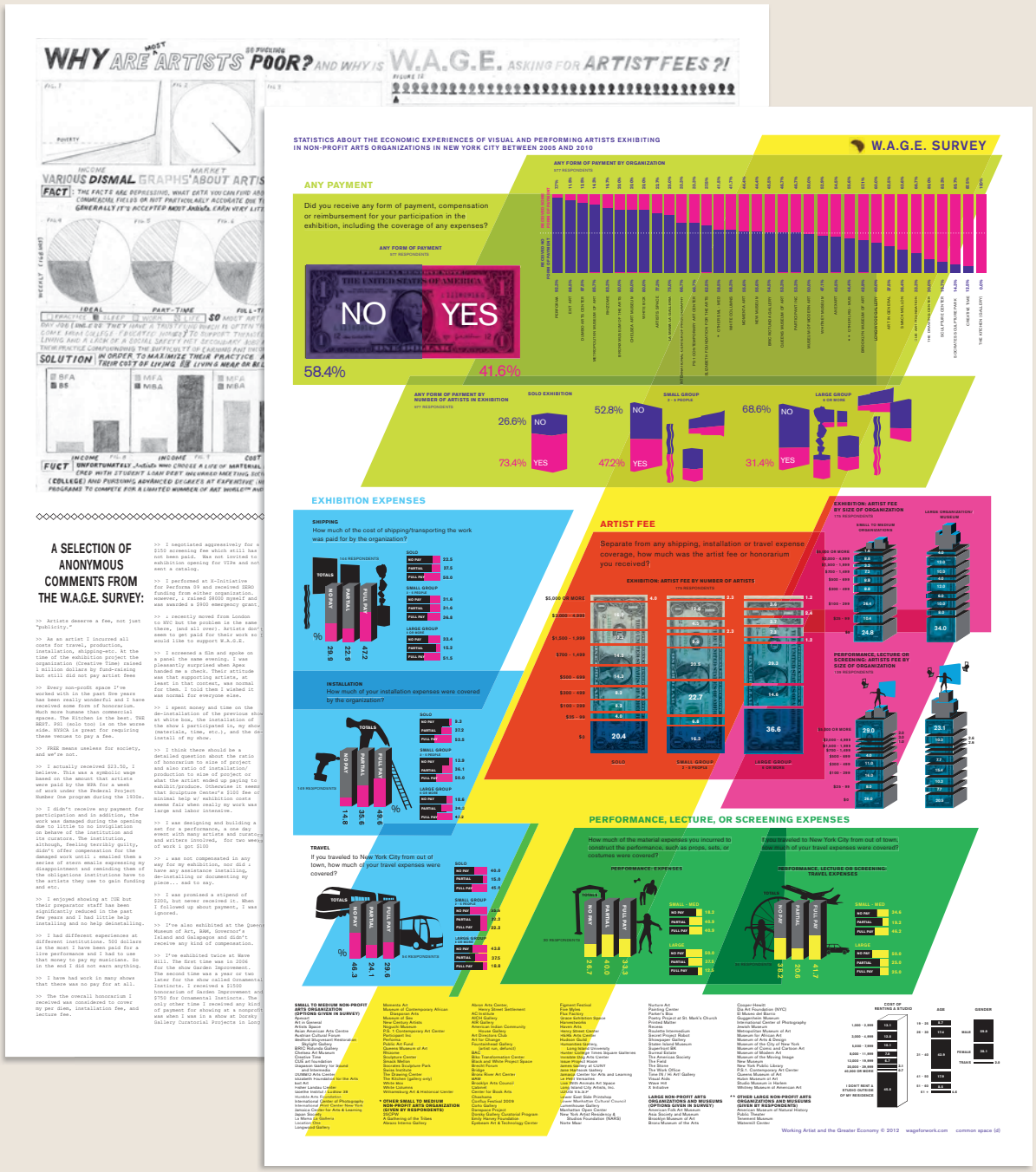
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FACT
SOLUTION
A SELECTION OF ANONYMOUS COMMENTS FROM THE W.A.G.E. SURVEY:
STATISTICS ABOUT THE ECONOMIC EXPERIENCES OF VISUAL AND PERFORMING ARTISTS EXHIBITING IN NON-PROFIT ARTS ORGANIZATIONS IN NEW YORK CITY BETWEEN 2005 AND 2010
W.A.G.E. SURVEY
ANY PAYMENT
Did you receive any form of payment, compensation or reimbursement for your participation in the exhibition, including the coverage of any expenses?
NO
YES
58.4%
41.6%
EXHIBITION EXPENSES
SHIPPING
How much of the cost of shipping/transporting the work was paid for by the organization?
INSTALLATION
How much of your installation expenses were covered by the organization?
TRAVEL
If you traveled to New York City from out of town, how much of your travel expenses were covered?
ARTIST FEE
Separate from any shipping, installation or travel expense coverage, how much was the artist fee or honorarium you received?
PERFORMANCE, LECTURE, OR SCREENING EXPENSES
How much of the material expenses you incurred to construct the performance, such as props, sets, or costumes were covered?
If you traveled to New York City from out of town, how much of your travel expenses were covered?

for organizations to articulate what their fiscal needs are," Soskolne observes.

Craft guilds once protected the interests of skilled artisans by regulating markets and ensuring the ongoing economic viability of their members' vocations. The social and economic power of the guild system peaked during the Renaissance period, only to collapse with the tide of industrialization that swept across the Western world in the 19th century. Aligning with W.A.G.E. to demand payment for commissioned content presents one model through which crafts workers could help build a coalition for economic reform and a more just redistribution of resources. This struggle also intersects with other critical issues facing the field of jewelry and metalsmithing, such as the use of ethically sourced materials. Soskolne makes W.A.G.E.'s position plain: "By not demanding to be paid, not only do you enable yourself to be exploited by the art system, you also support the consolidation of wealth by it."

Luke T. Baker is a writer, design historian, and curator based in New York who has written for The Museum of Modern Art, Metropolis, *Prada,* Modern, The Magazine Antiques, Art Papers, *and* The Studio Potter.

Data from the W.A.G.E. Survey and other resources are available online at www.wageforwork.com.

TECH TOOLKIT

Measured Vignettes: Calipers

A reminder that a simple tool can have a big impact.

BY GABRIEL CRAIG

I was tasked with cleaning out the lockers in the metal studio at the end of the school year. I had my pick of the spoils before turning the debris over to the upperclassmen. The contents of fifteen lockers—ramshackle remains of mandatory tool kits, half-completed projects, and crumpled bits of 600-grit sandpaper—lay strewn about. Among the grobet stainless six-inch rulers and #2 cut half-round files lay a pair of brass calipers. A caliper rule, to be exact; but no one really calls them that. It's not part of the standard tool kit, or else there would have been more of them abandoned on the table. It noted inches on top, millimeters on the bottom, and was simply labeled "METER." "Made in Germany," it read, returning to proper letter case. This was a good tool, machined and stamped with nice, tight action. I flicked the calipers open and snapped them shut with the ease of operating a Zippo before dropping them into my pocket.

Five years on, these vernier sliding brass calipers (made by Gesswein, which I only discovered was their manufacturer when writing this article) have served me well. They are great for measuring stones, material thickness, and sometimes ring blanks, small parts, and tolerances. I have made a gradual transition into steel work, and they are now indispensable for measuring hardware, fasteners, machined parts, stock sizes, and checking forged parts. I was at the Metal Museum in Memphis for a brief spell and discovered a pneumatic engraving machine in their shop. I conducted exhibition business during the day, but spent my evenings engraving every stray piece of brass and copper I could find. With little scrap at hand, on my final night in Memphis I cannibalized my Gesswein vernier sliding brass calipers.

With their humble origin, hyperfunctionality, and aftermarket modification, they have come to represent the most essential tenets of craft for me: function and beauty.

Our shop has had a robust internship program for five years. Each intern has traveled a unique path from across the country to Detroit. Last February, an intern handed me incorrectly cut and marked parts. The next day I drove to the local jewelry supply and procured a pair of brass calipers that were boring, basic, and utterly essential to the business of being a metalsmith. I sat down at my pneumatic engraver and gave them character. I ornamented them so that this intern—and the rest of the interns and employees from then on—would not only have an essential tool to aid them in their craftsmanship, but also an embellished tool, bathed in the beautiful frivolity of ornament that pervades the work we do.

My calipers have journeyed with me for two-thirds of my career now. I don't know what I'd do without them. They sit right over my heart, on the left side of my apron, in a pocket specially made for them. With their humble origin, hyperfunctionality, and aftermarket modification, they have come to represent the most essential tenets of craft for me: function and beauty.

Gabriel Craig is a metalsmith, writer, craft activist, and co-owner of Smith Shop in Detroit, Michigan. The author learned what the vernier scale was while researching and writing this article. The calipers in question appear to be, even now, getting better all the time.

Craig's Gesswein vernier sliding brass calipers, complete with engraved modifications.

A good tool makes
all the difference.

Bowl overlay by James Miller, hand cut with
a Knew Concepts Jeweler's Saw.

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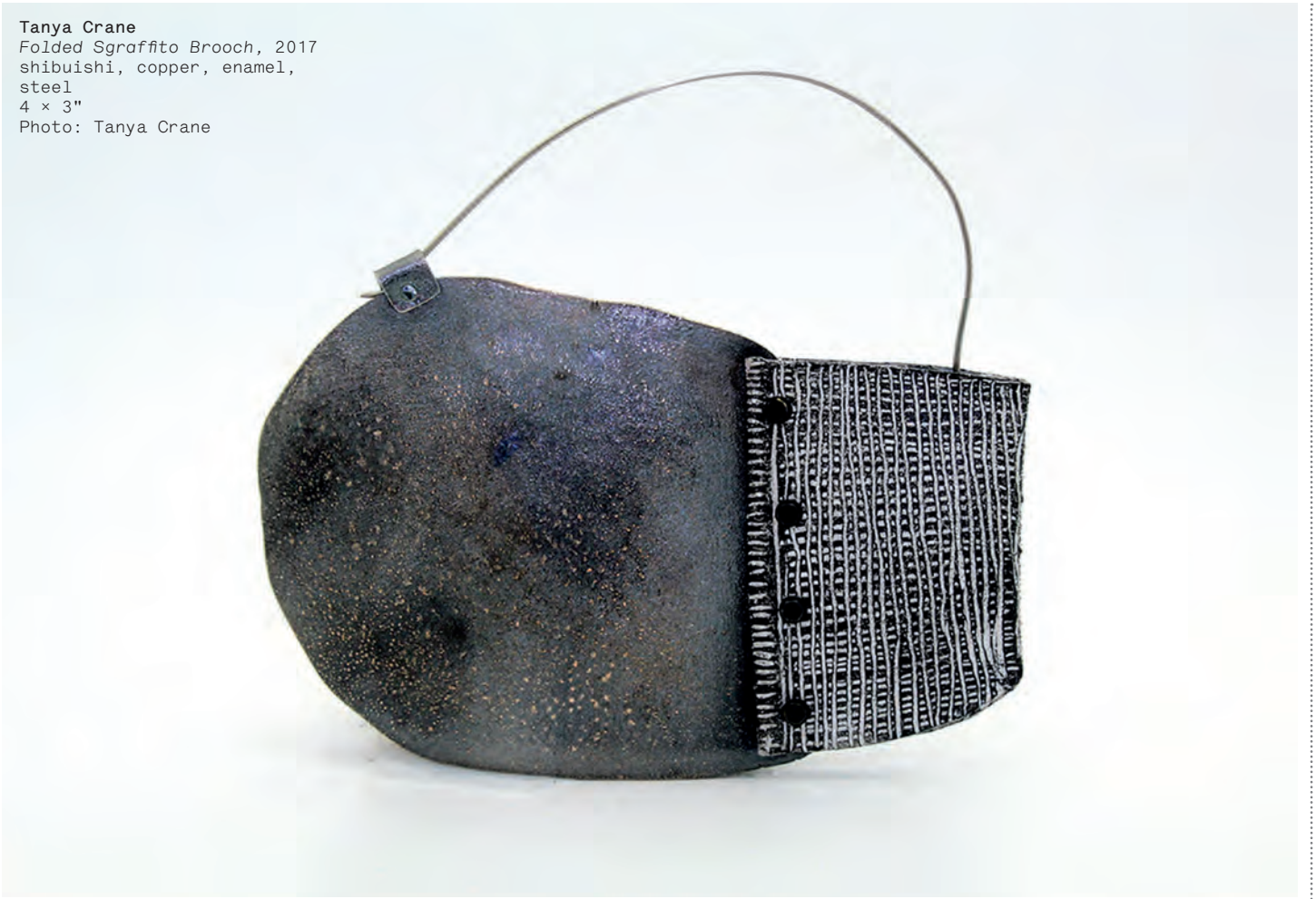

Tanya Crane
Folded Sgraffito Brooch, 2017
shibuishi, copper, enamel, steel
4 × 3"
Photo: Tanya Crane

TECH TEACH

Nomadic Pastoralism

An artist finds inspiration by bringing traditional training to an interdisciplinary teaching environment.

BY TANYA CRANE

I have had the privilege of a nomadic existence. For some, moving from city to city and state to state every two years for more than two decades might seem daunting. For me, this kind of movement has exposed me to triumphantly diverse makers, teachers, landscapes, and cultures. Through these experiences, I have come to realize that I am extremely adept at adapting, and assimilating my newfound realities into my art. There is always a new food, building, or music that has the capacity to inspire a piece of jewelry. Fresh and fecund interactions make me question my ways of making. They also challenge my perspectives and interpretations, which ensures fluid thought processes and keeps hubris at bay.

Only a few months after finishing graduate school, I found myself on a new academic adventure: teaching at the School of the Museum of Fine Arts, Boston at Tufts University. Having come from two very traditional metals programs, SUNY New Paltz and University of Wisconsin–Madison, I found myself in a school whose mission is to provide a truly interdisciplinary art education to its students. For me, that meant taking the linear system of a traditional jewelry program, intended to provide foundational knowledge and techniques, then extrapolating these fundamentals through experimentation with materials, as well as ways of making.

I would ask the students when learning how to pierce and saw metal to bring in materials from their environments. This meant items from their dorms, natural materials that they found on their walk to school, grocery-store items, and, most importantly, discarded material they found in our very large Dumpsters. From this point of departure, the students would make the skill samples I required, but also make creatively connected assemblages of materials. Through these exercises, jewelry and small sculptures would emerge, imbued with thoughtful intent. I had one student who made phallic forms with crushed windshield glass, glue, and fiber. Occasionally he would adhere these materials to metal, but mostly he used the context and setting of a jewelry class to make small sculptures that referenced raised vessels, a traditional metalsmithing artifact. Another student took bronze casting grain and embedded a small amount into an alginate mold. From there she poured cement into the mold and created a series of rings. These cement rings featured casting grain as stone, and stone as metal. These moments, when one material references another, are the desired effect, and not isolated instances.

These experimental modes of making are a constant in my classroom. I find it an exhilarating way to spend my time as

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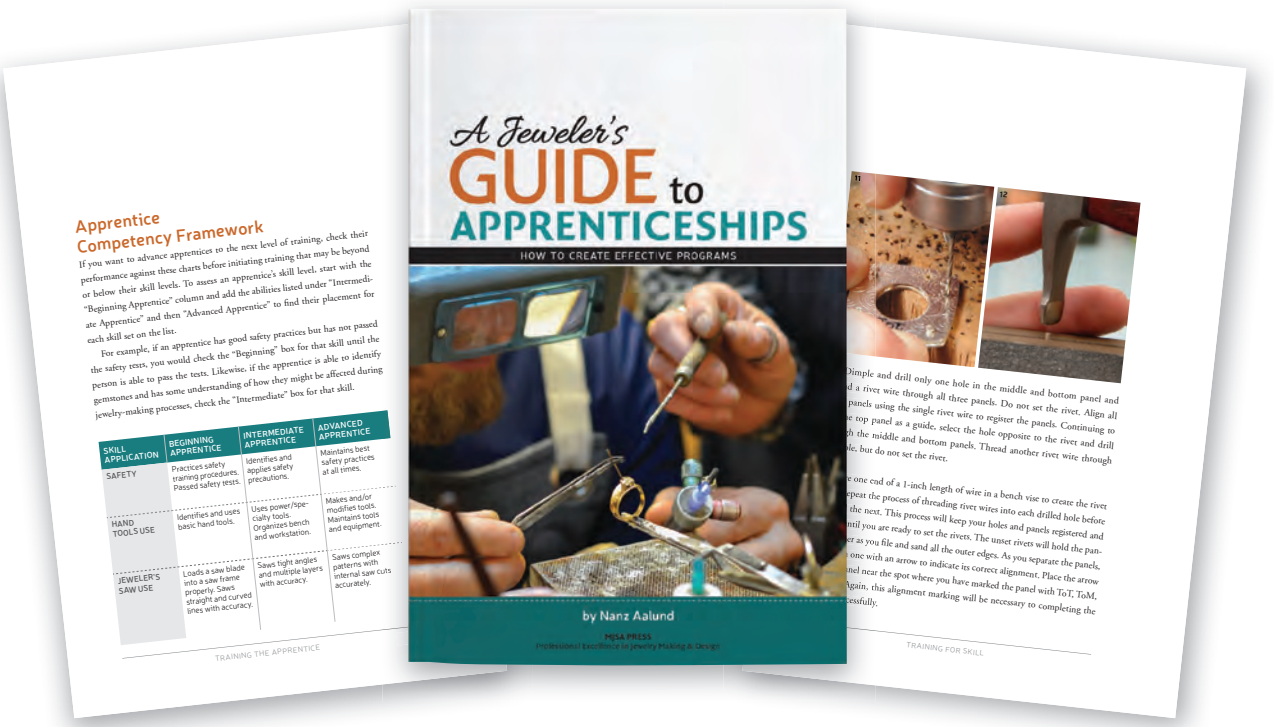
Apprentice Competency Framework
If you want to advance apprentices to the next level of training, check their performance against these charts before initiating training that may be beyond or below their skill levels. To assess an apprentice's skill level, start with the "Beginning Apprentice" column and add the abilities listed under "Intermediate Apprentice" and then "Advanced Apprentice" to find their placement for each skill set on the list.
For example, if an apprentice has good safety practices but has not passed the safety tests, you would check the "Beginning" box for that skill until the person is able to pass the tests. Likewise, if the apprentice is able to identify gemstones and has some understanding of how they might be affected during jewelry-making processes, check the "Intermediate" box for that skill.
SKILL APPLICATION
BEGINNING APPRENTICE
INTERMEDIATE APPRENTICE
ADVANCED APPRENTICE
SAFETY
Practices safety training procedures. Passed safety tests.
Identifies and applies safety precautions.
Maintains best safety practices at all times.
HAND TOOLS USE
Identifies and uses basic hand tools.
Uses power/specialty tools. Organizes bench and workstation.
Makes and/or modifies tools. Maintains tools and equipment.
JEWELER'S SAW USE
Loads a saw blade into a saw frame properly. Saws straight and curved lines with accuracy.
Saws tight angles and multiple layers with accuracy.
Saws complex patterns with internal saw cuts accurately.
TRAINING THE APPRENTICE
A Jeweler's
GUIDE to
APPRENTICESHIPS
HOW TO CREATE EFFECTIVE PROGRAMS
by Nanz Aalund
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11
12
Dimple and drill only one hole in the middle and bottom panel and
d a river wire through all three panels. Do not set the rivet. Align all
panels using the single river wire to register the panels. Continuing to
e top panel as a guide, select the hole opposite to the river and drill
h the middle and bottom panels. Thread another river wire through
le, but do not set the rivet.
e one end of a 1-inch length of wire in a bench vise to create the rivet
epeat the process of threading river wires into each drilled hole before
the next. This process will keep your holes and panels registered and
til you are ready to set the rivets. The unset rivets will hold the pan-
er as you file and sand all the outer edges. As you separate the panels,
one with an arrow to indicate its correct alignment. Place the arrow
nel near the spot where you have marked the panel with ToT, ToM,
gain, this alignment marking will be necessary to completing the
essfully.
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Olimpia Saxe-Coburg
Cement Ring, 2016
cement, bronze casting grain
Dimensions variable
Photo: Olimpia Saxe-Coburg

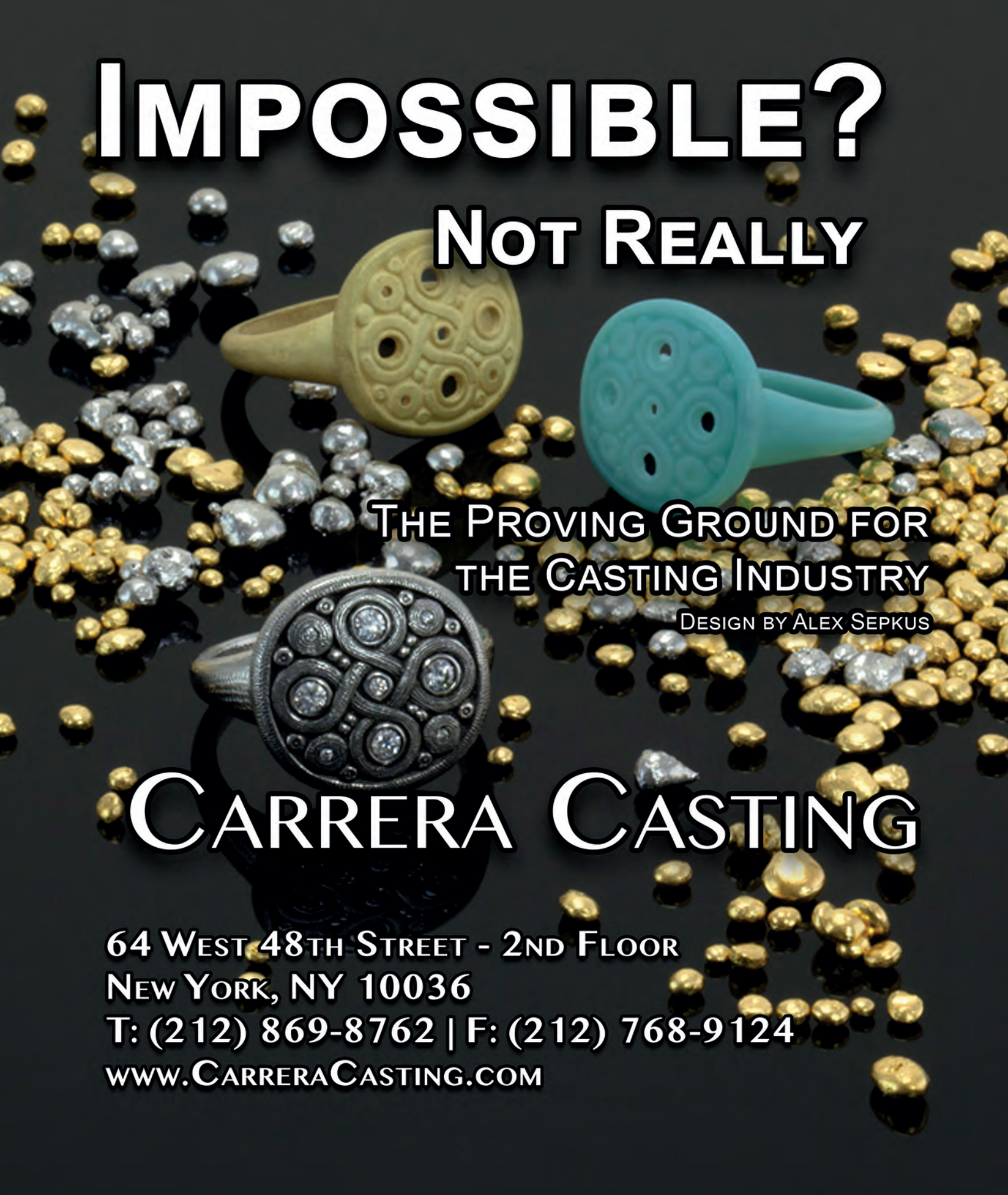
Blake Oliva
Orange Highbeam, 2017
low carbon steel, high gloss varnish spray paint, rubber straps, canvas straps, resin
20 × 10"
Collection of Efharis Alepedis
Photo: Paulina MacNeil

a teacher; of course, these experiences have found their way into my jewelry and sculptures as well. After moving to New England, I found myself inspired to dig into the deep and robust history of American industry, starting with the American industrial revolution at Slater Mill and continuing through to present day. New England's history has also made me more aware of cultural artifacts, and more specifically those of African slaves and their migration throughout America.

Having grown up in Southern California, I was used to mostly mission-style buildings and stories of the American West. Now I am surrounded by old brick mills in various states of decay and an incredibly diverse mix of cultures. My work now is both informed by my new environment, and by the excitement and experimentation of my students. After spending eight hours a day teaching in an interdisciplinary environment, when I come home to my studio in a century-old creamery building, I can't help but draw from these visual cues and insert them into my work.

Reflecting on my experiences as a maker of jewelry objects, it seems that the journey—including what is learned through teaching others—is always reflected in the work. The call to use materials that reference the industry that made them has become my most important concern. I seek materials that reflect the cultures they reference, and I am not overly concerned with whether I am using traditional metalsmithing techniques—and I encourage my SMFA students to do the same. I am lucky to spend so much time in this interdisciplinary teaching environment, which allows me to cultivate a mutually beneficial relationship with my students.

Tanya Crane received her MFA in Metalsmithing and Jewelry from the University of Wisconsin–Madison in 2015, and her BFA in Metal from SUNY New Paltz. She is a part-time lecturer in Metals at the School of the Museum of Fine Arts, Boston at Tufts University and a critic in sculpture at Rhode Island School of Design.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STUDIO VIEWS

Starting Your Studio for $500 or Less: A Guide

BY DIANNE DEBEIXEDON

A STUDIO IS A PERSONAL SPACE, built slowly and thoughtfully to suit your style of working. Making the transition from a teaching space to a personal studio can be overwhelming—and expensive. Most of us learn our craft in a spacious classroom full of benches, tools, equipment, and supplies. However, when leaving that environment and looking to establish a studio, artists typically face thousands of dollars of expenditures, often at a time in their career when resources are limited. There needs to be a cost-effective, practical way to replicate what was previously provided by an academic setting.

MY BEGINNING

After my graduation, I moved to a beautiful area in rural Georgia about sixty miles from the nearest metropolis. I didn't anticipate the feeling of artistic isolation from fellow smiths, nor the profound effect of losing a working studio. If I were to continue in metals, it was obvious that I not only had to create my own space, but also reconnect with the metalsmithing community.

The Internet was not as pervasive as it is today, but SNAG was there. It became, and remains, my connection to our "tribe" of artists. As a teacher, my students are faced with the same dilemma I confronted—with the additional complication of a plethora of information online. It can be so overwhelming that it's almost impossible to know where to begin.

Each semester, I speak with students individually to discuss how to develop a brief strategy for space, equipment, tools, and supplies, customized to the way they work. Based on my experience, I try to offer my students a suitable and attainable approach. With limited financial resources and outstanding college loans, I found creating my first studio to be a slow build.

The first item on my list was locating a usable space: *Working space is a tool.*

To even begin, I had to formulate a strategy that would focus on priorities. While some choices seemed obvious, I devised a list of needs, with attention to the *absolute minimum required* to create a working space—my personal bottom line. Next were items that could be put off for a few years, when I might broaden my repertoire. Working further down the list, I identified the higher-quality tools, equipment, and facility features that I would need in the years to come.

A funny thing happened along the way. As I proceeded toward my goals, my needs diverged from my intended inventory. For example, casting equipment was initially at the top of the list. However, I changed direction artistically, and it fell to the bottom. I never dreamed that a longing for casting equipment would be replaced by a longing for a forge and a Peter Wright anvil! Several criteria guided my changing priorities. Some were based on my perception of whether a tool, equipment, or space was an investment that would serve me well into the future, or whether a less expensive alternative with an acceptable reduction in quality would meet my needs. Sometimes I decided that making the tool myself would be a better option than buying. Balancing planning with allowing my list to evolve in real time helped me evaluate decisions.

GETTING STARTED WITH SPACE

The first item on my list was locating a usable space: *Working space is a tool.* My first studio was a small, narrow back porch. Fortunately, jewelers can often work in compact spaces such as a basement, garage, shed, or rented space, with a basic workbench and a table for soldering. The few tools I had consisted of a saw frame, two hammers (both of which I still have), assorted files, and a small mushroom stake. I was fortunate to own a torch tank setup, a required purchase as a student. I had grumbled about the cost at the time, yet as I set up this first studio I was grateful. When considering a space, keep in mind adequate ventilation, lighting, safety, and access to water.

My second priority was finding suitable work tables for bench work, soldering, and equipment. Using large, heavy tables and stumps drove me crazy! The tables had to be braced, which

The working table in schematic below, and in DeBeixedon's studio, at right.

required a large footprint and wasted valuable space. After years of struggling, I changed my criteria and used smaller custom-built tables. I designed a small basic table made from 2x4s and 2x6s that is sturdy, heavy, and easily moved on a hand cart. The drawing on this page shows how the table was put together, and it can be any dimension depending on the size of your materials. Using only two cross braces allows the space under the table to remain accessible. Since the tables can be configured side by side, staggered, or separated, they easily accommodated moving into my sixth studio a few years ago. The small tables—four now in total— fit this new space easily. Underneath, I store heavy tools, pitch posts, steel blocks, and sandbags. With the added heft, they weigh close to 200 pounds, giving me a table strong enough to mount vises, rolling mills, stakes or buffing wheels. Even with the constant hammering during raising, the table stays in place. There's just no substitute for mass!

A safe table for soldering is another essential consideration. The surface, which might be covered with solder board, charcoal, or fire bricks, must be able to withstand the intense heat of a torch for soldering and annealing. The soldering table I have been using for many years is custom-made (by my talented spouse!) and surfaced with small 2x2 ceramic tiles. The

THE CHECKLIST

Without knowing an individual's working style, it is difficult to devise a specific list that meets the $500 budget. However, these recommendations are general guidelines when creating a studio. A "◊" symbol by an item means that it could be found second-hand at a flea market, garage sale, thrift store, discount hardware provider, or drugstore.

MUST HAVE HAND TOOLS

- Files: Ring file, bastard file, needle files, Magicut file for steel, file cleaning brush ◊
- Bench blocks: steel and rubber
- Brushes: brass (fine bristles) and steel bristles (small gun-cleaning type)
- Center punch
- Cutters: flush cutters, heavier duty wire cutter (hardware) scissor or shears
- Hammers/Mallets: Chasing, rawhide, planishing, forging (midweight) brass dead blow ◊
- Loupe and/or other magnifying glasses, optivisors
- Mandrels: round ring, large for bracelet
- Metal dapping set with a large variety of punch sizes ◊
- Pliers: flat nose, round nose, chain nose ◊
- Ring gauge
- Safety goggles
- Saw frame (adjustable) with tension screw for blade
- Stone setting: stone setting tools, burnisher and scraper

SOLDERING TOOLS AND SUPPLIES

- Bowl for water ◊
- Copper tongs
- Crock/pickle pot ◊
- Soldering pick(s) (A 36 steel/1/8–1/4 inch)
- Soldering blocks, charcoal, bricks
- Sparker/lighter
- Torch (propane or acetylene)
- Tweezers

GENERAL SUPPLIES

- Beeswax
- Binding wire
- Buckets ◊
- Epoxy
- Flux
- Grinder ◊
- Ivory bar soap, Castile soap, and Dawn. Use Ivory soap or Castile for tumblers
- Liver of sulfur and/or Silver Black
- Microcrystalline wax
- Polishing compounds
- Polishing cloth

- Rags ◊
- Sandpaper (various grits), scotch bright and 0000 steel wool
- Scissors ◊
- Sharpies
- Solder snips
- Solder: hard, medium, easy, extra easy (cadmium free)
- Sparex #2 pickling solution
- Toothbrushes ◊
- Yellow ochre

DIY: TOOLS THAT IT PAYS TO MAKE YOURSELF

- Bench pin
- Burnisher
- Center punch
- Chasing tools
- Hammers: make out of wood, bone, or plastic
- Jump ring mandrels: make from 01 or W1 steel
- Mandrels: large for bracelet (large diameter PVC pipe)
- Scraper
- Soldering pics
- Stone setting tools

IF YOU'RE FEELING FLUSH: INVESTMENTS IF YOU HAVE MORE THAN $500

The tools below are suggestions of "investment" acquisitions which might be either future purchases, or secured used and in good condition, but which may not fit in a $500 budget.

- Anvil: 55 lbs ◊
- Bench Shear
- Casting Equipment: Centrifuge, burnout kiln, and accessories
- Doming Block and punch set
- Drill Press (large)
- Drill Press (small table top)
- Flex Shaft and motor attachments
- Polishing unit
- Rolling mill
- Tumbler/polishing machine
- Ultrasonic cleaners
- Vises ◊

tiles are easy to clean and repair, and protect the top from heat transference. Soldering board is placed on top of the tile, where I created a firebrick surround to contain the heat.

TOOLING UP

Determining which hand and power tools were an absolute necessity was my next challenge. For tools that are essential but expensive, I recommend regular visits to flea markets, garage sales, estate sales, and thrift stores, looking in particular for quality used files and rasps (which can be cleaned in a 50/50 solution of vinegar and water), stainless steel pots and pans for chemicals, pliers, hammers, and C-clamps in all sizes. One of my favorite finds when I was setting up my studio was a 1950s Craftsman grinder, purchased for $5 to "make do" until I could invest in a quality machine. I fixed the safety shields, painted it in the original color, and twenty years later, the "make do" grinder is a permanent member of the studio.

The ability to harden and temper steel provides the opportunity to custom-make tools that are not commercially available, made in the size or weight you need. While it may seem as if you are wasting time and money making tools, by making your own you become a more discerning buyer and recognize quality in the work of others. Students in my classes learn how to forge, grind, anneal, harden, and temper a few basic types of steels, then craft their own tools for chasing, burnishing, stone setting, chain making, waxing, and custom soldering pics. Some tools function much more effectively if they are formed to specifically to fit your hand, or they might not be commercially available in the size you need. Burnishers, for example, are important for stone setting, but are only available in one or two sizes in standard shapes. However, you can make small burnishers in different shapes, with a curve perfectly suited for chasing or stone setting. I particularly like to make some wax tools out of wire hangers because the cheap steel holds heat so well. There is a particular joy in using a custom chasing tool with a slight twist to fit your thumb placement.

Some of my favorite tools were just scrounged and repurposed. A few examples were gifts from friends. One was a shallow cigar box that I filled with soft microcrystalline wax, into which I press small items; I use it as a holding device that won't scratch or mark the metal. I was also given a large steel theater curtain weight that I adapted for shallow chasing. A large discarded piece of Corian cut out from a kitchen sink counter is one of my favorites. I use it as a work surface on top of my bench. The Corian has a smooth matte finish that can be kept immaculately clean. I can draw or put notes in pencil on the surface while I am working, which later

Right: DeBeixedon's 1950s "make do" grinder purchased when she first set up her studio, and still in use.

Tools are everywhere, if you know how and where to look.

can be easily removed with a mild cleanser. Tools are everywhere, if you know how and where to look.

MONEY MONEY MONEY

Your creativity can provide many workarounds when a tool is out of reach financially. Years ago, I needed a curved surface for cold forming. A large anvil or mushroom stake was not an affordable option. Instead, I purchased a bowling ball in a thrift store for under $10 and an unmounted lawnmower tire. By placing the bowling ball in the tire for stability, I had the large curved surface I needed! Later I made a freestanding base for the bowling ball, which I use to this day. Even though I now have an anvil, sometimes only the bowling ball gives me the curve I need.

When considering making a long-term investment, it may not be cost effective to purchase more quality than you need. Likewise, "knock-offs" may serve you well in the near term. I frequently peruse discount hardware stores, where I've bought inexpensive vises, dental tools for wax work, a dapping set with block (quite nice), dead blow brass hammers for stamping, needle files, C-clamps and a small 55-pound anvil. When I acquired an antique Wilton and Charles Parker vise to replace two good but lesser quality "knockoffs," I gave them to people just starting out. In contrast, anvils for me are an investment purchase, and I did not buy second rate. For most of my students, a Harbor Freight anvil is a perfect match in size and quality.

SHOP TALK

Talk to other metalsmiths online, at conferences, symposia, and any gathering. We've all created studio spaces, and other smiths are likely to have ideas, solutions, and suggestions that will serve your situation. Talk to vendors as well. I owe a debt of gratitude and appreciation to the vendors that SNAG has worked with over the years. All of them have generously offered their knowledge and expertise directly or indirectly to us, to help set up our studios and become practicing metalsmiths and artists.

Dianne deBeixedon studied metals at Southern Illinois University and the University of Georgia before beginning her career as a professor at Old Dominion University in Norfolk, Virginia. She began the metals program, now fully equipped in a new studio building, with few tools in a damp classroom under the football stadium.

Author Portfolio

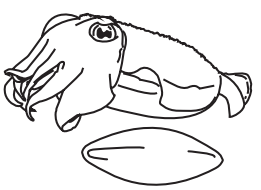
Dianne de Beixedon
Shape Shifting Camouflage, 2015
niobium, sterling silver, fine silver, titanium druzy (chasing and repoussé)
4 × 2 × 2"
Photo: Eric Lusher

Dianne de Beixedon
Octopus's Garden in the Shade, 2017
copper, pewter (chasing, repoussé, forging, patination)
22 × 10 × 7"
Photo: Eric Lusher

THE NEXT GENERATION

Cuttlebone Casting for Teachers

BY JIM BOVÉ



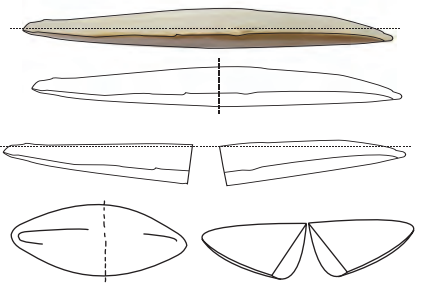
THIS ARTICLE IS INTENDED as a teacher's guide to cuttlebone (sometimes called cuttlefish) casting for grades six through twelve, ideally for a group of up to twelve students. Cuttlefish are squidlike marine animals with a central shell called the cuttlebone, which we will use for the project. The cuttlebone provides the cuttlefish with its buoyancy. You'll most commonly find cuttlebone in the pet aisle of the grocery store as a source of calcium for pet birds—but, if you're in the right part of the world, you'll find them washed up on the beach!

Cuttlebone casting will teach your students how to plan a design for casting, carve a mold, cast, saw, file, and finish a work of art. Because the mold itself is carved away to create the form for the artwork, the process emphasizes subtractive techniques, as opposed to the additive process generally found in clay sculpture lessons. This is an especially useful project for collaborations with physics, applied engineering, and earth science teachers. The casting process is an excellent crossover from STEM into STEAM, and shows how closely related the arts and sciences really are.

I have taught cuttlebone casting to students as young as age twelve. While students in this age range may be nervous at first, they love the casting process once they try it. Casting using cuttlebone is affordable, even on limited school budgets. While this tutorial is intended for the beginner, a basic familiarity is assumed for some jewelry processes (sawing, filing, and soldering).

PREPARING THE CUTTLEBONE

Due to the natural curve of the cuttlebone, a lot of material will have to be removed in order to flatten out the length of the bone. Unless you plan to do a very long cast, cut the cuttlebone in half first. Each half can then be flattened to provide a thicker cross section, allowing a deeper, stronger mold.



Since cuttlebones are very soft, they can be easily cut with a jeweler's saw using almost any size blade. A band saw can be used to save time, but—depending on student comfort or class time limitations—you may want to do the prep work in advance. Next, sand the soft side flat. The soft part of the shell is what we will be carving into. Use a figure-eight or X pattern to ensure that the cuttlebone is evenly sanded. Coarse sandpaper (such as 180-grit wood) works especially well. You can rub the two halves of the cuttlebone together to smooth them, but I find that this raises more dust and makes it harder for students to get the halves perfectly flat. Wearing dust masks while sanding is recommended. Figures 1 and 2 show the cuttlebone before and after sanding. The cuttlebone is cut in half and the soft side is sanded smooth.

1

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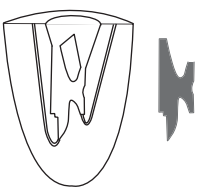
DESIGNING YOUR ARTWORK

Once the cuttlebone has been prepared, students will have a better idea of their canvas and the size limitations for their designs. I suggest leaving a quarter-inch buffer zone around the edge, measured

from the flattest part, not from the edge of the bone itself. This will ensure that metal does not break through during the metal pour. Have students place the cuttlebone flat side down on paper and trace it so that they have an accurate design space (measure in from the tracing to create the buffer zone). Or, create a sheet of cuttlebone outlines so students can produce their designs, like this simple anvil, as homework.

Next, plan how the metal will flow into the mold. Since this will be a gravity pour, the best way is to determine if the metal will flow into all of the parts is to turn your design upside down. Ask students to imagine: If the mold were filled with water, would all the water be able to pour back out? Students should lay out their design with proposed sprues and vents, as in Figure 3.



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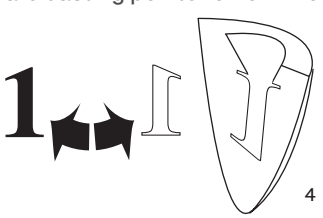
Images will be backwards as in Figure 4, so have students reverse any type they might want to use by flipping their design over and using a light table or a window to trace it. Designs can be drawn directly onto the cuttlebone using pencil. While there are many ways to sprue and vent, experimentation is part of the process. Sometimes no vents are needed, as the cuttlebone is very porous. While I have seen vents that go right out of the sides and bottom of the mold, I would avoid those. Metal can leak out, especially if you are casting pewter or low-melting metals.



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CREATING YOUR DESIGN IN THE CUTTLEBONE

Cuttlefish bone is very soft. It can be easily carved and objects can be pressed into it. Soft brushes are used to accentuate the cuttlebone texture. Careful carving with a polished tool can produce very smooth textures. If you press down with a polished tool to compact the cuttlebone material, it will give a smooth finish. Alternatively, you can use a soft brush to remove the soft part of the cuttlebone to accentuate the natural texture. When creating the design for casting, you might also think of what can be pressed into the cuttlebone to create shapes. Flathead and Phillips-head screwdrivers make great patterns, and there are a whole range of shapes that can be found in the hardware store that can be pressed into the cuttlebone. Just remember that everything must connect, so that the metal can flow from one section to the next!

When pressing a shape into the cuttlebone, the soft bone material may become compacted, and it is too hard to push further without risking breaking the bone. In this case, you should scrape away the compacted material before going any further. Sometimes you must press and then scrape away repeatedly before reaching the desired depth of impression. The pattern shown in Figure 5 was made by pressing in a premade shape, first carved out of hard wax. Vents radiate out from the design to allow air to move quickly away, and a generous sprue will allow the metal to enter the mold quickly. Try to keep designs at least an eighth of an inch thick. Students can use a quarter or nickel to press into the cuttlebone if they are making round charms to give a good depth before they start carving a design within the circle.

5

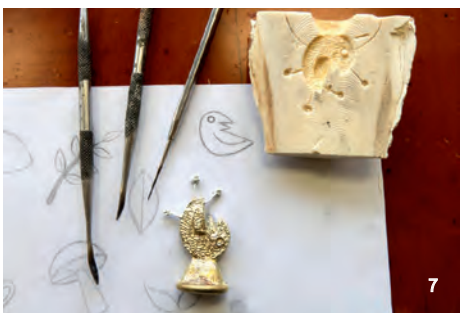
PREPARING TO CAST

When using higher melting temperature metals, a cuttlebone cast allows for one pour. Once the molten metal is poured in, the mold is burned away. Lower melting temperature metals, like lead-free pewter, do not burn the mold and can be used several times. Be sure not to have undercuts if you want to make multiples.

The piece in Figure 6 was cast in bronze; the mold is no longer usable.

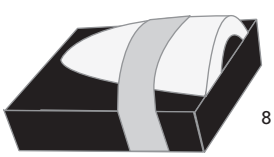
6

The piece in Figure 7 was cast in pewter, the mold can be reused. This image shows the tools used by a student to create a cast in pewter. She rotated her design so the sprue would be at a wide part and the metal would flow naturally into every area.



7

When creating a one-sided cast, in which a student carves into a single cuttlebone and the back is flat, I prefer to use a hard-charcoal block, as shown in Figure 8. The traditional method is to use another cuttlebone, but this wastes that material. Instead, the charcoal block can be reused and, if handled by the edges, can be picked up as soon as the color has drained from the metal. You can use masking tape instead of wire to secure the two halves of the mold, as the tape will survive the cast, is cheaper and less wasteful than wire, and students tend not to crack the cuttlebone (as they do when tightening wire). Just be sure the tape is tight when you wrap it all the way around the mold, so it overlaps. By beginning and ending the tape on the back of the charcoal block, it will be easy to undo after the cast. Always make sure that tape is touching tape, as the powdery surface of the charcoal does not allow for good surface contact.



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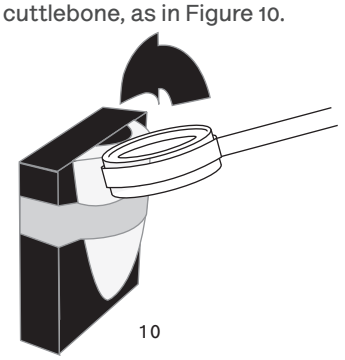
Once the cuttlebone is taped to the charcoal block, check to make sure it is tight by gently pulling on the cuttlebone; there should be no movement. Next, hold the block up to the light and look for any gaps. If you see any light showing through, there is a gap and metal will run out. Fix this before casting!

CASTING

A simple casting setup can consist of a torch that gets hot enough for the metal you choose. We use an oxyacetylene setup with a brazing tip, but you can use an acetylene torch for silver and small amounts of bronze, or even a small Bernzomatic torch setup from the hardware store if you are using pewter and small amounts of metal. You also need a crucible with handle for melting the metal in and pouring it, and a fireproof table setup with a pebble tray to support the mold and catch any overflow metal.

9

While seemingly the most difficult part, the casting itself is actually very simple. Place your metal in the crucible. It is fine to eyeball the amount you will use, and better to melt a little more metal than you will need so that you don't run out mid pour. Just stop pouring once the mold is filled. You can use a little borax as a flux when melting the metal. No matter which metal you choose to use, make sure it is fully melted. It should "pillow," or have good surface tension and no resistance when a stirring rod is passed through it. Once the metal is fully melted and ready, place the crucible lip to the lip of the cuttlebone, as in Figure 10.



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Keep the torch flame on the leading edge of the metal the entire time. Once you start pouring, do not stop. Even if you have to make a slight correction, it is better to pour in one smooth, fluid motion. This is why a pebble tray is very important. It not only supports your cuttlebone, but will catch any metal that does not make it into the mold.

For silver or bronze: Once the cast has cooled enough so that the color has drained from it, unwrap the cuttlebone over a metal pot filled with cool water and drop in the cast. Finish unwrapping the used cuttlebone and douse it in the water as well. Never allow your hand to be in the possible path of the falling metal, and work close to the surface of the water. Do not quench the charcoal block.

For pewter: Pewter will appear to "frost over" and have a matte finish when cooled. Test pewter by gently tapping the sprue with your stirring rod. Follow the unwrapping process as you would for silver or bronze, but allow your cuttlebone to cool on its own, as you will most likely be able to use it to cast again since pewter has a much lower melting temperature. It makes sense to keep silver and pewter tools and workspaces separate, as pewter can alloy with silver and cause it to melt at a much lower temperature, opening holes in the silver.

A note about using pewter in the classroom: Decide in advance if your studio and tools will be used for any metal other than pewter. It is introduced here for the school teacher as a great alternative to casting silver, but be aware that pewter will cause cross-contamination with silver and other metals.

CLEANING THE CAST

For silver or bronze, place it in a solution of pickle, like sodium bisulfate, once the piece is quenched to remove any oxidation. For bronze, you may need to add hydrogen peroxide to the pickle, or use hydrogen peroxide and white vinegar (a three-to-one ratio is good) as your pickling solution. Pewter does not need to be pickled, and should be ready to have the sprue removed.

SPRUES

The best way to remove sprues from a silver and bronze cast is to use a jeweler's saw. I recommend a #4 saw blade as an all-around blade for cutting off sprues. For removing sprues from a pewter cast, a good flush cutter works well. Flashing and any vents that may have been cast can also be removed with the flush cutters.

FILING AND SANDING

While filing removes marks creating by sawing off sprues and flashing and can shape the work, sanding removes file marks and small irregularities in the surface. Start with a coarse grit and work your way up to progressively finer and finer sandpaper grits.

POLISHING

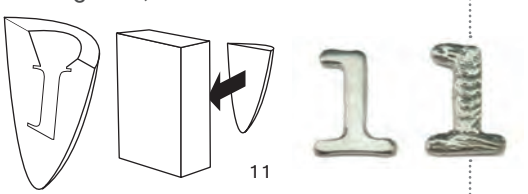
An excellent final polish can be achieved with very fine steel wool or a fine bristle brass brush. If your budget allows, a tumbler is a great idea for finishing the projects.

PATINAS

A good patina to use on sterling silver and bronze is liver of sulfur. For pewter, there are a few commercially available patinas like Novacan Black and Jax.

TWO- AND THREE-PART MOLDS

Once students gain experience, they can experiment with more complex casts using multipart molds. In a one-part cast, as in Figure 11, the back is flat.



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I wanted to pay homage to the long history of jewelry making, so I cast my wedding band using cuttlebone in a two-part mold. You can see the cuttlebone texture on the inside.

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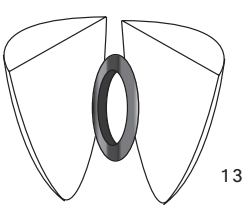
A model can be pressed between the two halves, or you can carve into the cuttlebone.



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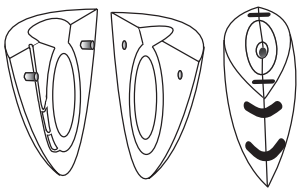
To maintain alignment, key-up the mold parts, or use a Sharpie on the outside. Look into the mold through the sprue before taping together to see if the molds are lined up.



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A three-part mold is necessary sometimes. In this case, the "three" on top of the ring in Figure 15 would be impossible without a third part to the mold.

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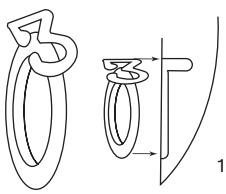
Three-part molds are necessary when an undercut area exists. As you can see in Figure 16, the detail in the top of the ring would not come out in a two-part mold.



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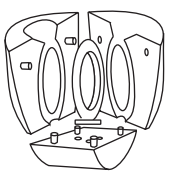
Use a third cuttlebone piece and carve or press your design into it.



17

All image and photo credits: Jim Bové. / Jim Bové is a practicing artist, educator, and former SNAG board member. His artwork has been featured in several magazines and books, including Humor in Craft, 500 Art Necklaces, On Body and Soul: Contemporary Armor to Amulets, *and most recently in* Cast: Art and Objects. *His artwork has been exhibited nationally and internationally. / Jim Bové would like to thank Kaci Maden, Jenn Polando, and Taylor Stefanko for assisting with the photo shoot.*

Additional images showing how to prepare the cuttlebone and steps in the design, casting, and finishing processes can be found online at http://www.snagmetalsmith.org/metalsmith-magazine/metalsmith-extra.

Cuttlebone Cast Examples

Examples of student work.

This cast was turned into a ring. Notice the difference in texture. One is pressed in and cast; the other has the cuttlebone texture exaggerated with a brush.

Shawn Shannon created this Memento Mori of portraits made using the lost-wax casting process and cuttlebone cast accents.

Cuttlebone casting is an excellent way to create multiples. Artist Robert Clark Dean created these charms and chain links by first carving a shape out of wood and then pressing the form into the cuttlebone.

TECH TALK

E-etching Copper and Silver with Copper Nitrate

BY BEN DORY

FOR MOST PEOPLE, the term *electrolysis* only appears in science textbooks and classrooms, although we also encounter the term *electrolytes* in advertisements for energy and recovery drinks. What does electrolysis have to offer metalsmiths? Through a process called e-etching, we can use electrolysis to etch copper and its alloys, as well as sterling silver.

This update of my 2015 SNAGtech article is an introductory guide for bringing e-etching into the classroom and studio. It also includes some new possibilities for using e-etching techniques, demonstrated through the work of artists Marissa Saneholtz and Bryan Parnham. Their daily practices exemplify two particular instances in which this process thrives, respectively: etching for champlevé enamel and silver etching.

Copper nitrate in solution is a particularly unique and effective option for metalsmiths. This piece is intended to be a useful general resource to create more process alternatives for metalsmithing studios. Our position on studio and environmental safety is reflected through how we approach chemical-heavy processes like etching. E-etching with copper nitrate is more efficient, safer, and cleaner than traditional methods.

E-ETCHING: THE PROS AND CONS

My aim has been to create a home studio in which there is no place for caustic acids or salts. Likewise, while teaching, cleanliness, safety, cost, and volume are always considerations. Etching with copper nitrate creates a way to eliminate acid, with the added bonus of etching both copper and sterling. This discovery comes from much experimentation with other solutions. Ferric chloride and ferric nitrate are slow, taking patience and babysitting to reach the desired etching depth. Nitric was always out of the question; the benefits and even the limits of other methods far outweigh the precautions and safety measures needed to use and dispose of this acid responsibly. E-etching with copper sulfate is slow, and an acceptable depth is hard to reach. E-etching with salt water, while successful when moving between copper and steel, creates erratic results, and bath chemistry changes quickly, as chlorine ions combine into new compounds. For all e-etching, the surface can appear microcrystalline with the best results, like fine sandblasting. Edges do not undercut, as with acid. Rather, they fillet slightly where the horizontal and vertical walls join.

Alfonso Crujera
Gpplh 13, 2003
Zinc printing plate created using e-etching
19 3/4 × 19 3/4"
Photo: Luvier Casali

FINDING A SOLUTION THROUGH PRINTS

The cross-disciplinary nature of etching means that metalsmiths can draw from a wide variety of sources, especially printmaking, for inspiration in aesthetics, technique, and studio practice. Inquiries by printmakers over the past decades have led to the rediscovery of e-etching in the studio environment. Comprehensive guides written by these printmakers, both in print and online, are an invaluable resource for e-etching. When I began to think seriously about e-etching after working with Arthur Hash at the Penland School of Crafts, I found further inspiration from Alfonso Crujera, a printmaker in the Canary Islands. He champions copper sulfate for e-etching to prepare plates for intaglio, aquatint, and numerous other processes, as exemplified in his *Electro-Etching Handbook*. This book was my first exposure to a process that did not off-gas or need to be refreshed.

Bryan Parnham
New Structure Necklace, 2016
silver and industrial primer
12 × 6"
Photo: Bryan Parnham

HELPFUL TERMS:

Electrolyte: A solution that contains ions, which can be either positively or negatively charged particles.

Electrolysis: A chemical reaction caused by passing an electric current through an electrolyte. This usually causes decomposition—or in other terms, etching.

Electrolytic (E)-etching: Forcing an electric current from a DC power source to metal plates in a charged solution to selectively remove surface material.

COPPER NITRATE IS:

Efficient: Only one bath needs to be made. Solutions can be taken from a larger bath as needed and returned when etching is complete.

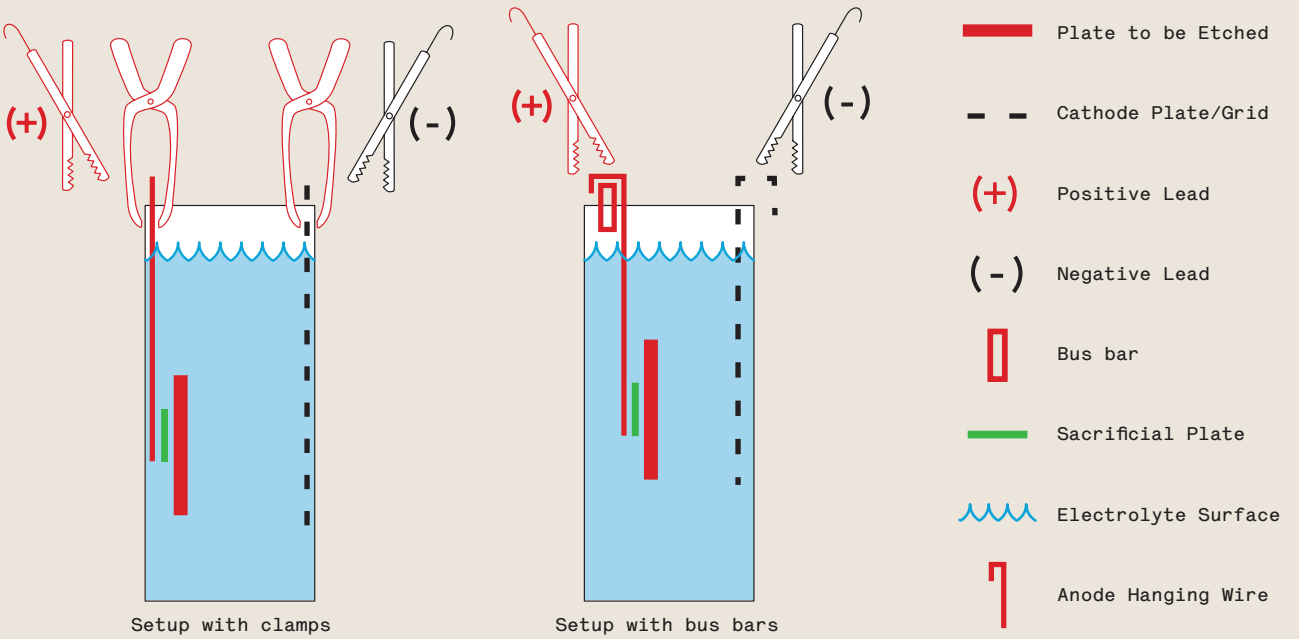
Self-perpetuating: The end result of etching is more copper nitrate. Newly available copper ions bond with the nitrate to start the reaction anew.

Consistent: The amperage raises to a steady current, which results in an even etch. Likewise, the results are replicable with the same bath over time.

Safe: There is no off-gassing; disposal is only necessary when the bath is not useful anymore, and the solution may be safely stored.

Easy: The only upkeep is to maintain the water level if it evaporates.

Setting Up Your E-Etching Bath



E-etching with copper sulfate has replaced traditional techniques in many studios around the world in which health and safety are a priority. Printmakers' techniques in setup and preparation, even though they aim for different results, are invaluable resources. But again, the end goals of etching for metalsmiths is often very different that those of printmakers. R.L Jackson's article "Relief Electro-Etching for Champlevé Enameling" published by the Guild of Enamellers (http://www.guildofenamellers.org) led me to copper nitrate, which has become my sole etching solution for copper and silver.

BUYING COPPER NITRATE

When looking to purchase copper nitrate for your studio, consider The Science Company (www.sciencecompany.com) as a reliable source. Cupric nitrate is sold from 100g to 2.5kg. Cheaper—but non-credentialed—options are available on eBay. The specific chemical that they sell is cupric nitrate trihydrate.

MIXING SOLUTIONS

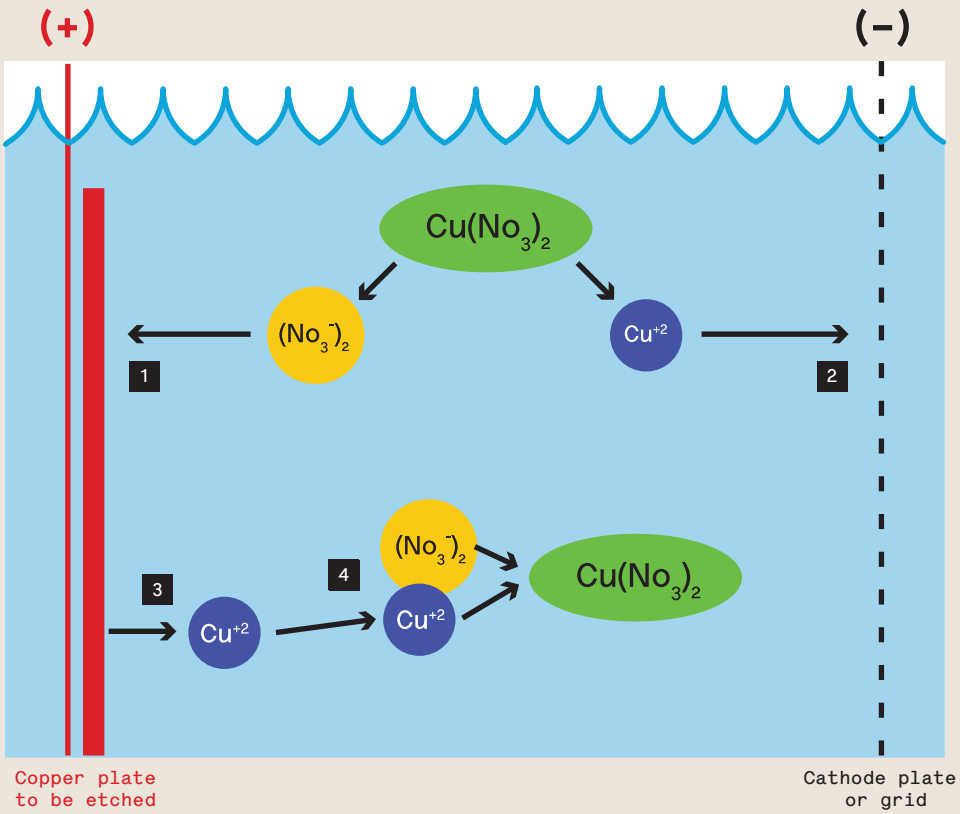
Wear gloves, eye protection, and a mask when working with the copper nitrate crystals. This is a precaution; the crystals are not a fine dust and do not release caustic fumes. Since 1 ml of distilled water equals 1 g, mixing solutions by mass can be quite simple. A 25% solution of copper nitrate in water provides great etching results. To mix this, begin by zeroing a metric scale with your chosen container on top. Add water until the mass matches the volume that you want, and set to the side. In a separate container, measure out the copper nitrate to a mass that is 1/4 of the water mass, then add copper nitrate to the water. Always add your chemicals to water—not vice versa, to avoid a potential undesirable reaction—and stir until the crystals have dissolved.

MATERIALS AND SUPPLIES

- DC power source: This can be a plating rectifier (3A will be plenty for the vast majority of projects). A DC wall plug with wires stripped at the end is cheap and useful if you are etching small pieces (the amperage rating is not high enough for larger pieces).
- Copper nitrate: This only needs to be purchased once, and 500g should run about $30.
- Positive and negative leads with alligator clips: Traditionally the positive lead is red, and the negative, black.
- Plastic or glass container large enough to submerge your piece, with room for a cathode sheet.
- Cathode: These should be copper, silver, or stainless steel sheet or mesh, and approximately half to the same size as the surface area to be etched. You should match copper to copper and silver to silver, but stainless works for both.
- Extra metal: This is to connect the leads to your plates. Think of these as consumables, as they may etch along with your work.
- Copper or silver anode: This is the plate you will etch.
- Materials or tools for suspending your plates, like clamps or bus bars.
- Distilled water
- Etching resists: Vinyl, BioLac, Lascaux acrylic resist, tape, spray paint, paint pen, waxes, oil-based crayons, and other materials will all work well.
- Steel wool or steel scraps in water for converting copper ions.
- Washing soda/soda ash or baking soda for neutralizing
- An N95 particulate mask (at least)
- Nitrile/latex/rubber gloves

Your bath does not need to be complicated. Make sure your container has vertical walls. For an even, consistent etch, it is essential that your plates are parallel to each other. Sometimes you will have to back your plates to get them to hang vertically in curved containers or from bus bars. The best results come when the plates are two to four inches apart. Double-check your leads to ensure that the plate you want to etch (anode) is attached

The Chemistry



The process begins with copper nitrate $Cu(No_3)_2$ in solution with H_2O

When a current runs through each lead:

The charge at each electrode separates the $Cu(No_3)_2$ into oppositely charged ions

1. $(No_3^-)_2$ is attracted to the negatively charged cathode grid, plating the surface
2. Cu^{+2} is attracted to the positively charged exposed areas of the copper plate
3. $(No_3^-)_2$ oxidizes the exposed copper, releasing Cu^{+2} from the plate and into the solution
4. Cu^{+2} bonds with the free $(No_3^-)_2$ creating new $Cu(No_3)_2$

The process repeats as long as a current is present.

to the positive line. Use a sacrificial plate to connect the anode wire to your work to help prevent etching the back of the plate.

ETCHING

A few easy habits will help ensure etching success. Turn the power on or off before you handle the plates. Slow down and lower the voltage to improve the quality of the etch. Corners will stay sharper and etched surfaces will be more refined. If the voltage is too high, you will start to see bubbles at the surface of your solution. This is *hydrolysis,* or the separation of water molecules. You want the electricity to focus on your copper nitrate solution. Record the volume of solution, percent solution, voltage, resist and distance of your plates. Your results are replicable—good and bad!

FROM THE FIELD

Marissa Saneholtz implements e-etching with copper nitrate for both her personal work in champlevé enamel and while teaching at Bowling Green State University. Traditionally, you need to etch halfway through the copper for the enamels to hold, and Saneholtz does this to great success. Familiar masking techniques such as nail polish and PnP work well with this process. Saneholtz has used a 25% solution steadily for two years, with her rectifier between 4 and 4.5 volts.

Bryan Parnham has implemented copper nitrate for etching sterling silver. He utilizes PnP and Puretch to create refined geometric patterns in metal surfaces. Additionally, Parnham experiments with photo transfer processes. When etching silver, metal solids will accumulate in your bath. These will settle to the bottom and not interfere with further etching. Conversely, they can be removed and stored. Parnham refines the silver solids with Hauser & Miller, which will take your scraps and sweeps and refine them for a check, credit, or traded for new metal with a discount (http://www.hauserandmiller.com/refine/). In his process, 3x6-inch sterling plates are etched for roughly forty-five minutes, adjusted for more or less exposed metal. Parnham sets his rectifier to 3 volts in a 25% solution. His bath has been used continuously for more than two years.

Ben Dory is a studio jeweler in Savannah, Georgia and the lead technician in the rapid prototyping lab at the Savannah College of Art and Design.

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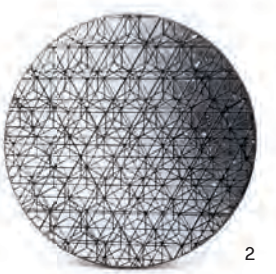

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1
Bryan Parnham
Daniel Tryptich, 2016
copper, silver,
industrial primer, photo
2 1/2 × 2 1/2" (each panel)
Photo: Mercedes Jelinek

2
Bryan Parnham
New Structure Brooch, 2017
silver and industrial primer
3 × 3"
Photo: Bryan Parnham

3
Marissa Saneholz
The traditions were hers to change, 2017
copper, enamel, decal,
sterling silver, pearls,
silk, stainless steel
3 × 1 1/2 × 3/8"
Photo: Sara Brown

4
Marissa Saneholz
She could only ignore it for so long, 2015
copper, enamel, found
object, sterling silver,
stainless steel
2 1/4 × 2 1/2 × 1/4"
Photo: Sara Brown

5
Marissa Saneholz
The hits just keep coming, 2016
copper, enamel, pearls,
sterling silver,
stainless steel
2 × 3 1/3 × 1/4"
Photo: Sara Brown

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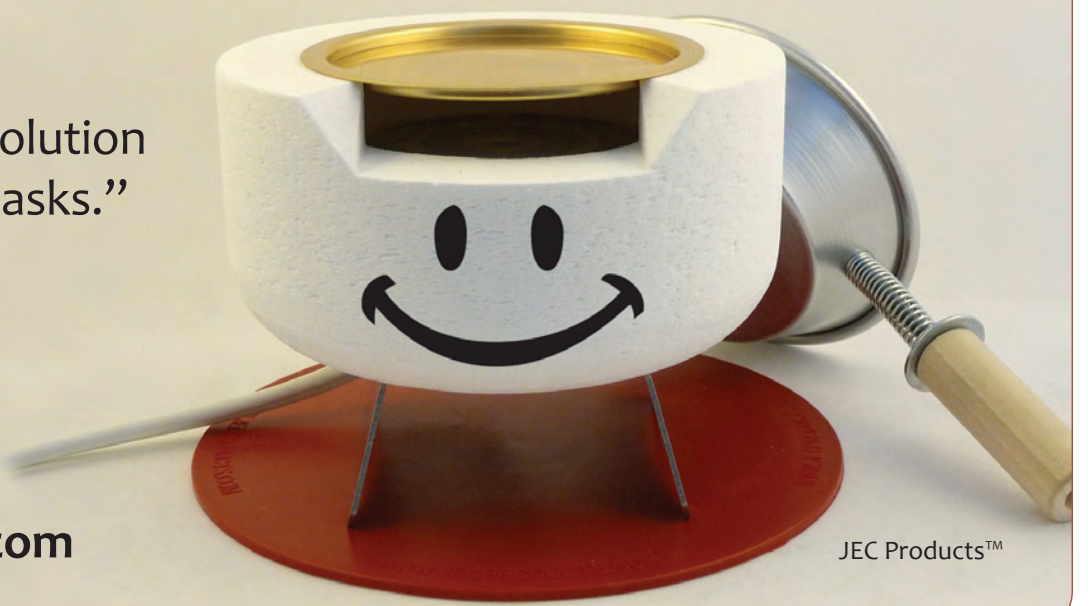

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